MARYLAND - LAND PLANNING CONSULTANT

Report on some desirable adjustments in rural land use for Maryland.... 1935

R E P O R T

on

SOME DESIRABLE ADJUSTMENTS

in

RURAL LAND USE

for

M A R Y L A N D

An Expansion and Refinement of the
Preliminary Report of September 1934

by
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National Resources Board

College Park, Maryland
May 1935

REPORT ON
SOME DESIRABLE ADJUSTMENTS IN RURAL LAND USE
(To Accompany Maryland Problem Area Map)

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To the National Resources Board,
Interior Building,
Washington, D. C.

Gentlemen:

In compliance with Bulletin A-13, outlining procedure for augmenting and refining the Preliminary Report of October 1934, the Land Planning Consultant for Maryland herewith tenders, through the Office of the General Planning Consultant for Maryland, the following Report.

The Report includes refined and revised Problem Area and Closer Settlement Maps and certain supplementary maps, together with additional data secured, and the results of various studies made since the previous report was submitted. The report endeavors to point out areas within which it appears that conditions of mal-adjusted land use exist and which are worthy of intensive study when the time seems propitious. Possible and tentative adjustments of such areas are suggested.

The writer wishes to take this opportunity to express his appreciation for the valued suggestions and sympathetic help given by various members of the staff of the University of Maryland, and others in the preparation of this report.

Respectfully submitted,

(Signed) Mark M. Shoemaker

Mark M. Shoemaker,
Land Planning Consultant
Maryland.

May 1935

P R E F A C E

By executive order, the National Resources Board was created "to prepare and present to the President a program and plan of procedure dealing with the physical, social, governmental and economic aspects of public policies, for the development and use of land, water and other national resources, and such related subjects as may from time to time be referred to it by the President."

The investigations and preliminary report covering National land-use problems was put in charge of Dr. L. C. Gray, Chief of the Land Policy Section of the Board. Under his direction, studies and reports were prepared for the individual states and submitted prior to October 1, 1934, for assembly into a report covering national and regional land problems. In deference to the very short time available for the gathering together of a vast amount of data and the necessary research and studies, these state reports were considered preliminary and tentative. The present report has been prepared for use in the formulation of the general state planning report and is an expansion of the preliminary land-use report as prepared for Maryland. It has been made more complete and includes as much additional information as was permitted by the short remaining time. Where further research has suggested it, modifications to the preliminary report have also been made. There are many factors necessary to a complete land-use study not included in this report. This is because, in most part, they have been studied by other agencies or the information already obtainable by the Federal Government.

Some of the explanatory material thought desirable for this report need not of course be necessary for inclusion in the General State Planning Report which is to be submitted to the National Resources Board, as the Board is already familiar with the method of attack, the symbols used on maps, etc.

INTRODUCTION

Land is our most important national resource. Its uneconomic use is unnecessarily wasteful and the results have often been tragic. Throughout the country there are extensive areas of land entirely unsuited to the use to which it is being put, or for other reasons, requiring some form of adjustment or reorganization before becoming an economic asset rather than the present liability. It is within these areas that one can expect to find the greatest degree of social breakdown, such as poverty, need for public relief, tax delinquency and farm abandonment. All these various factors contribute to the production of so called problem areas for which a lasting solution is most desirable.

In common with the other states of the union, Maryland has many land-use problems, the solution of which is imperative to a sound economic footing. Fortunately, the problems are not always as pronounced as is the case in many other sections. There is present, however, land under cultivation which, because of its unsuitability to arable farming, should never have been wrenched from its virgin state and would better be returned to forest or put to other use. There are other areas, once boasting productive farms, which have become, or are becoming, totally unsuited for the type of agriculture engaged in and for which some more suitable use should be found, or else the condition responsible remedied. Within the state are outstanding areas where faulty farm management practices or the economic set-up is such as to seriously handicap an otherwise potentially good farm section.

There are other areas presenting little in the way of agricultural problems, but because of an unusually high public value, should for all time be protected by some means for the public good.

For the sake of the future welfare of the state and her share in the national welfare, these problem areas should be determined and a long term policy of land utilization formulated which will serve to rectify former mistakes, and at the same time, guide and control future development. With a knowledge of specific problem areas at hand, and by instigating a program of education, research and legislation, it will be possible to replace the present policy of planless land utilization by a long-term policy which will eventually yield greater agricultural and social values than is at present possible.

It is hoped that the present brief report, with its known inadequacies, and which is open to review and revision, will be helpful in instigating some of these desired adjustments.

Purpose and Scope

This study and report endeavors to:

A. Determine the character and geographic extent of the present major rural land-use problem areas within the state.

B. Indicate the nature of the adjustment desired within these areas.

C. Suggest, as far as possible, means of effecting this adjustment.

D. Make an appraisal of the best ultimate use of probable utility of the various land areas of the state.

General Observations

The main purpose of a land-use study is to determine the best ultimate economic use to which various land areas are adapted and to point to any necessary adjustments in the present use which may be necessary to achieve this desirable goal. It is also necessary to determine those areas within which, although the present basic use is appropriate, certain faulty practices tend to jeopardize a long continuance of the type of use for which at present it is best fitted. Also these faulty farm management practices are often responsible for present poor economic and social conditions not attributable to fundamental capabilities of the area.

An appraisal of the probable utility of the land has tremendous value and can be put to practical use in a variety of ways. Not only is there the factor of conservation of land resources for the public good, but there is the value to individual land owners and prospective land owners in pointing out the most economic use of various land types, and the relative value of, and suitability for various purposes. The prospective farm purchaser, by reference to the results of such a study need not settle within areas where agriculture has proven uneconomic but can be guided into those land areas of demonstrated quality. With the location of potentially uneconomic farm areas at hand, steps may be taken to foster a gradual abandonment or, in extreme cases, an immediate evacuation by public purchase and the area put to its fundamental use. The determination and abandonment of submarginal areas usually results in a distinct saving in the cost of Government as the cost of roads, schools and other public services is usually greater than taxation of such areas will cover.

Except in cases of extreme need, it is felt that the gradual withdrawal is the more healthy policy, accelerated by public effort as much as possible. The gradual abandonment presents a better opportunity to make satisfactory human adjustments which should be considered as well as the physical factors. There is a certain natural resistance on the part of individuals to being uprooted from a long established home, poor as it may be. The provision of more desirable areas and public financial assistance toward reestablishment would do much to stimulate desirable withdrawals. It seems essential that the provision of resettlement areas for any intensive removal of farm population, from undesirable lands, be as close as possible to the abandonment area so that the new settlers will be in an environment with which they are familiar and among people who are of their own kind. These areas should when possible be within the same county.

Planning must be based on people and their social backgrounds and requirements as well as scientific land use. In addition to having submarginal land, we have in the state sub-marginal farmers abusing and barely existing on good land. This type of operator is found in a highly concentrated degree in some sections. What is the adjustment? Certainly not the removal to other lands. The existing low economic condition characterizing such an area is not the fault of the land. Removal would probably only contribute to a similar condition being set up in another area. Historical precedent and the initiative, energy, potential ability progressiveness, and education of the individuals are factors to consider in determining causes for undesirable conditions and the adjustment thereof.

Usually the existence of sub-marginal agricultural areas is the result of the blending of several margins. When we have the meeting of poor land, a poor farmer, and a marginal type of agriculture within the same area, we are very likely to find ourselves possessed of sub-marginal conditions. It would seem to be the unfortunate circumstance that, to a high degree the marginal farmer is to be found on marginal or sub-marginal lands. To some extent this may be due to the fact that he has reached the level of his abilities. As a tenant perhaps he has gradually been shunted into the least desirable soil areas by his inability to work good farms to the satisfaction of the landlord, or, if an owner his inability to make a farm pay sufficiently to finance a completed purchase of the higher priced lands and so we find him continually seeking cheaper land.

Following the determination of various problem areas, it will be essential to foster public sentiment favorable to adjustment. It cannot reasonably be anticipated that local units (county and even state) can do much in the way of land-use adjustment where the program necessitates the purchase of considerable areas of land. Even in the richer states, sufficient funds are not available. It would seem that local units will, in most cases, have to confine their activities to programs that do not cost any great amount of money, as for instance, the setting up and administration of zoning ordinances which would be designed to prevent new abuses rather than correct past errors. The correction of past mistakes in land utilization usually requires the purchase of land. Any program of this type would, except in minor instances, require the assistance of Federal Funds. These federal funds should go first to purchase areas on which families are now living, or are actually being abused, not areas which are merely potential sources of abuse.

Because of overlapping conditions, much adjustment will have to be made, ignoring county and state boundaries. Undue flooding and silting of streams and rivers, for instance cannot always be controlled solely within the confines of a state, when perhaps, the source of the trouble arises in an adjoining territory. However, detailed planning should, it seems, be made on a county basis but under centralized supervision.

PART I

The Land Surface

PART I.

THE LAND SURFACE

The Natural Regions:

The state of Maryland has four major physiographical regions. In the study of the land-use problems as found in the State, these differences in physical condition have presented a corresponding distinct type of problem in each area. These regions are as follows:

1. The Mountainous Region in the west presenting land too rugged for economic agriculture.

2. The Central Area of rolling topography, of general high soil fertility, of general good farm management and proximity to good markets. This area is inrelatively good economic condition and presents little in the way of a problem area.

3. Southern Maryland, characterized by light soils, under frequent hilly conditions, subject to erosion.

4. Eastern Shore, also characterized by light soils, but generally flat and presenting drainage problems.

Although Maryland is the eighth smallest state in the union, it presents a diversity of natural conditions seldom found except in states of much larger extent. In its maximum length of about 300 miles, there is found in the mountainous section of the western portion elevations of 3300 feet. From the mountains the elevation gradually drops to sea level. Much of the eastern portion is bordered on one or two sides by large bodies of water. The modifying effect of the water on the one hand and the high elevations on the other results in considerable differences in climate and the relative value of the different regions for agriculture.

MAJOR USES OF THE LAND SURFACE (1930)

Area of the State:

In considering the total land area of the state, it is found that there is no agreement among the different agencies as to the acreage. Inasmuch as various calculations had to be made involving a combination of factors taken from different sources, each of which gives a different state area, it can be understood that at times certain discrepancies as to acreage will be found in this report. In view of the fact that much of the work was based on averages of various soil types, the acreage as given in the Soil Survey Reports has been used in general. These surveys, prepared in cooperation with the Maryland Geological Survey, and the figures given are also the basis used in the preparation of the Soils Classification Bulletin of the University of Maryland Experiment Station. The various figures given as the state acreage follow:

1. United States Census 6,362,240
2. Maryland Forest Service Report 6,330,039
3. Soil Survey Reports (Based on Md. Geological Survey figures) 6,306,560
4. Recently Revised Md. Geological Survey figures 6,317,000

The following table gives the figures for the land in Maryland classified as to use. The farmland figures are taken from the Census. Some of the figures are available, others are necessarily largely estimated.

MAJOR USES OF THE LAND SURFACE, MARYLAND, 1930

1. Agricultural and Forest Lands

Class of Land	Area	Portion of total Land Area
	Acres	Per cent
All land in farms	4,374,398	69.36
Crop land:		
Crop land harvested	1,741,615	27.62
Crop failure	17,906	.28
Idle or fallow	369,743	5.86
Subtotal	2,129,264	23.76
Pasture land:		
Plowable	538,913	8.55
Not plowable	214,435	3.40
Subtotal	753,348	11.95
Woodland:		
Pastured	205,474	3.26
Not pastured	1,007,629	15.98
Subtotal	1,213,103	19.24
All other lands:	278,683	4.42
Land not in farms	1,294,059	20.52
State forests:	48,947	.78
Privately owned woodland	844,372	13.39
Privately owned wooded swamps	42,624	.68
Privately owned land not wooded	358,116	5.68

2. Lands of Non-Agricultural Non-Forest Use

*Parks, military reservations, and municipal water supply sheds	98,591	1.56
Urban and rural residential use	160,000	2.54
Roads (State and County)	58,500	.93
Railroads rights-of-way	12,000	.19
*Game refuges - publicly owned	18,264	.29
*Game refuges --publicly leased	31,100	.49
Tidal marshes (trapping and hunting)	250,688	3.98
Beaches (partially used for recreation)	8,960	.14
Total	638,103	10.12
*Wooded and forest land included in these items	79,000	1.25
Total wooded and forest lands	2,228,046	35.33
Total agricultural and forest lands	5,668,457	89.88
Total non-agricultural non-forest use lands	638,103	10.12
Total land surface of Maryland	6,306,560	100.00

Note - State acreage based on Soil Survey Reports.

SOILS CLASSIFICATION

In order to better study the relationship of soil types and land utilization and to give a pictorialization of the soil resources of the State, the accompanying soil productivity classification map was prepared. The map has been based on existing soil survey maps of the State and fertility ratings for the various soil types as indicated in the Soils Bulletin of the University of Maryland Agricultural Experiment Station. The Soils Bulletin assigns to the various soils, relative ratings on a state basis with values ranging from one to ten. The yardstick of relative productivity value was based on alfalfa yield, and soils rating high for a wide range of crops receiving naturally the higher state ratings. There is the situation present, of course, where soils of low general rating on a state basis may have high ratings for some specific crops. The soils productivity classification map as prepared, takes this into consideration and attention called to it in the classification. All the various soil types of the state having similar agricultural capabilities or limitations have been combined into corresponding classes and the distribution of each class indicated on the map. The various classes obtained are rated alphabetically in accordance with what is thought to be their relative worth agriculturally. Thus, a large number of soil types are unified graphically on the map into but nine groups according to use capabilities rather than name of soil type as is portrayed on the soils maps. Such a map should prove of considerable value in land planning work and be most helpful to prospective farm purchasers

in making it possible to choose areas having soil types, meeting their requirements.

The classification is listed below. Class "A" soils are those having a 1-2-3 State productivity rating in the Soils Bulletin. Class "B" soils are in general 4 and 5 soils. This could not be strictly adhered to due to variation in productivity ability of such numbered soils in different counties. However, soils of equal general productivity, as indicated by the ratings for the specific crops were chosen to make up the class. Attention should be called to the fact that the fertility rating of the soils alone was used. Modifications as regards desirability, at times necessary due to topographic or climatic handicaps, were not included. This situation should be recognized as Garrett county, mostly mountainous, under the fertility rating would have more desirable farm land than Montgomery county which is one of the best. (See the slope map for the effect of topography on the desirability of various areas for arable farming.

In general, Classes C-D would be classed as marginal and E marginal to sub-marginal and F, definitely sub-marginal for agriculture. Varied circumstances, however, make this classification somewhat elastic. It is not the contention that Class C soils may not be good farm land, provided sub soils are intelligently farmed. In fact they are as productive as any in the state if properly drained. The marginal types, however, are those where one should investigate thoroughly before purchasing. Even sub-marginal soils may be productive when properly handled by good farmers. It is difficult to really determine what constitutes sub-marginality as regards soil capabilities for what would be sub-marginal for one farm family might be adequate for another whose needs are less.

Below is the classification of the various soil type groups with their relative fertility ratings.

Soil Type Classification

Relative Rating	Type	Description	State Percent
A	1	High productivity types for a wide range of crops (General farming).	46.3
B	2	Intermediate in productivity and adapted to a wide range of crops (General Farming). May rate "A" for special crops.	11.3
C	3	Suitable for General Farming and diversified crops, but often requires drainage. May rank "A" or "B" when properly handled and in favorable seasons.	15.0
D	4	Crop specialty soil types. Of good productivity for a limited number of crops only.	8.9
E	5	Crop specialty soil types requiring drainage	1.9
	6	Fairly diversified crop type but of uniformly low productivity for all crops	5.3
	7.	Very low productivity for any crop	4.8
F	8	Swampy lands (trapping and forest growth) meadow	2.4
	9	Non-agricultural, tidal marsh, beaches, etc. (trapping, hunting and recreation).	4.1

Tables showing in percent by county, the amount of the combined kinds of soils having similar fertility capabilities and in relation to their relative agricultural use. To accompany Soils Productivity Map. (Based on Soils Classification Bulletin, University of Maryland.)

COUNTY :Rating :Type	A 1	B 2	C 3	D 4	E 5	E 6	F 7	F 8	F 9	Total Acreage of County
Allegany	*26.4	*30.2	.3	-	23.9	-	19.2	-	-	264960
Anne Arundel	21.0	24.1	5.6	25.7	.2	1.1	14.2	6.7	1.4	268160
Baltimore	81.3	-	4.4	-	-	9.6	4.0	-	.7	423104
Calvert	15.0	59.1	4.3	12.8	-	1.2	-	5.3	2.3	139520
Caroline	32.9	-	21.3	31.1	7.5	1.2	-	5.0	2.2	204160
Carroll	82.8	-	-	16.2	-	-	1.0	-	-	286080
Cecil	74.7	-	4.3	.1	-	1.9	17.3	-	1.7	227200
Charles	47.9	-	12.0	6.0	-	26.4	-	5.4	2.3	296960
Dorchester	11.5	-	55.2	7.7	.4	-	-	1.4	23.9	368640
Frederick	62.9	2.4	-	18.9	-	7.5	8.3	-	-	424320
Garrett	5.0	*80.4	-	-	-	3.9	10.7	-	-	427520
Harford	79.6	-	-	-	-	7.5	10.2	-	2.7	282880
Howard	86.5	5.9	-	-	-	7.6	-	-	-	161920
Kent	63.3	-	26.7	1.7	.3	-	-	4.0	4.0	180480
Montgomery	82.2	11.8	-	-	-	6.0	-	-	-	309760
Prince George's	49.0	9.0	5.5	3.4	-	19.2	7.3	5.0	1.6	310400
Queen Annes	51.2	-	37.1	1.6	2.5	-	-	5.2	2.4	241280
St. Mary's	46.9	1.9	20.9	6.1	-	17.7	-	5.1	1.4	237440
Somerset	9.7	-	51.8	1.7	5.7	-	-	1.7	29.4	216960
Talbot	45.0	-	50.9	.4	-	-	-	2.9	2.8	171520
Washington	63.8	18.7	.4	9.9	-	-	7.2	-	-	293760
Wicomico	8.9	-	37.9	29.4	12.9	-	-	4.6	6.3	241920
Worcester	16.5	-	35.9	12.4	16.9	-	-	7.7	10.6	316800
State	46.3	11.3	15.0	8.9	1.9	5.3	4.8	2.4	4.1	6295744**
Percent by Group						7.2		11.3		

*Subject to modification due to topography

**Exclusive of 10,816 of unclassified soil in Baltimore City

TOPOGRAPHIC CLASSIFICATION

Topography has a very close relationship to the agricultural capacities of an area. It is in the areas of excessive slope that a great part of our sub-marginal agricultural conditions exist as indicated by poverty, high public relief, low realty values, etc.; this, at times, in spite of reasonably fertile soil types. This comes about because of several attendant factors:

1. Difficult to cultivate and use of labor saving farm machinery often impractical, due to slope and accompanying severe stonyness of such areas.

2. Such areas usually of high elevation with resultant short growing season and limited crops.

3. High degree of erosion in tilled areas with rapid fertility depletion.

4. Lack of adequate transportation facilities because of the costly engineering difficulties together with a necessarily scattered population.

5. Lack of, and difficulty in reaching good markets.

Arable farming in such areas has proven uneconomic and for the social value thereof and for the conservation of our land resources, a continued use for that purpose should be discouraged and much of such areas returned to their functional use - forest land.

On the other topographic extreme, we have the situation where land is so low and level that drainage becomes a problem with economic results similar to areas of excessive slope. Again forest growth should be the major use.

The accompanying Slope Classification Map, was prepared as part of the land-use study. It presents graphically the relationship of slope to successful agriculture.

In comparing the slope map, with maps indicating various economic conditions, it is well demonstrated that in widespread areas where the predominating slope is in excess of ten percent, the general economic condition is on a very low level. Only such areas most favorably located as to markets can support profitable farms, as for example, perhaps certain areas adjacent to Cumberland. Small isolated areas of steep land in large areas of the lesser slopes do not, as a rule, present so serious a problem. The slopes may be steep, but are of short duration while in the mountainous regions, the inclines are continuous and for long distances and carry greater amounts of water at greater velocity than in areas where slopes may be as steep but of less duration. Erosion of course is augmented.

In classifying the topography areas of the state, the four commonly used divisions of slope were recognized. They are listed on the following page. The slope type strongly predominating in an area fixed its classification. As an example, areas having predominating slopes ranging from 10 to 20% were classed as shown. Erosion above a 3% grade becomes a problem. Areas with predominating grades above 10% should rarely be in row crops.

Slope Classification

Type	Slope	Slope Type Description	Use Limitations
A	0 - 5%	Level to Undulating	Perhaps drainage
B	3 - 10%	Undulating to Strongly Rolling	General use
C	10 - 20%	Strongly Rolling to Hilly	Pasture and Woodland
D	Over 20%	Hilly to Precipitous	Woodland Only

PART II

The Determination and Classification of The Major Problem Areas

PART II

THE DETERMINATION & CLASSIFICATION OF THE MAJOR PROBLEM AREAS

A. PROBLEM AREA DEFINED:

A problem area is described as land, the best use for which remains unsettled, such as the desirability of clearing or draining for new settlement, or again, areas in which some form of adjustment in the present use seems desirable, as land where farming has had a history of low economic standards, marked by poverty and failure. We also have a problem condition wherein the use of the land is in a manner contrary to the public good. Poor soil, sub-marginal in fertility, does not in itself necessarily constitute a problem area. It is only when its use is uneconomic that problems arise. Such land, if under forest cover, need cause no concern, that being its fundamental use. Non-problem areas, therefore, are not necessarily all good land. In brief, in making a land utilization study, the aim is to separate the demonstrated entirely economic areas, from those areas needing some form of adjustment so as to become economic, either in basic use or in management practices. With the determination of the confines of these problem areas the remainder of the land may be ignored and attention given to the adjustment which seems necessary or appropriate within the problem areas.

B. APPROACH:

Due to the limited time and personnel available, this report has by necessity been prepared along broad lines, and should be considered as a preliminary study only. It endeavors to delimit the large scale, major areas within which specific conditions are pronounced. Small scale, detailed field surveys and office research will later be desirable for specific areas as occasion for actual adjustment arises and for the determination of problem areas not of sufficient magnitude to be considered in the present study.

Where practical, the unit of measurement has been the minor civil division or election district. This provides a more detailed and accurate picture of conditions than the usual custom of taking the county unit as a basis of measurement. In districts where a substantial part of the farm land is uneconomic, or for other reasons, presents a problem, the entire area has been designated as a problem area. This does not necessarily mean that all the land in the area is uneconomic in its present use or that all the farms should be removed from agriculture or are in need of adjustment. Small land areas of good quality may be found therein. It does mean that within the indicated area are faulty conditions of sufficient, general application as to warrant serious and early attention. In instances where there is in evidence a more or less distinct line of demarcation between problem and non-problem areas, they have been considered, irrespective of county or election district boundaries and have been so indicated on accompanying maps. Such areas are also generalized and their boundaries approximated.

In considering the problem areas of Maryland, it is realized that all sections have their agricultural problems to varying degrees; all sections have some areas of poor soil along with the good; all sections can point to a percentage of uneconomic farms located on potentially good soil and in need of some adjustment but in determining definite problem areas, only the major areas were considered where faulty conditions seem outstanding.

C. AUTHORITY

All information necessary in making a land-use study is not always at hand. Considerable information on Maryland is fortunately available, but much had to be determined by original statistical research. Where facts for statistical research were not available, the best opinions of those most familiar with a particular problem were secured. County agents and others were sent questionaires and interviewed and personal inspection visits made into various suspected problem areas, as far as time allowed. A bibliography of published information applicable to Maryland land planning is appended.

D. METHOD OF ATTACK:

1. Locating the Problem Areas.

Areas within which certain evidences of economic mal-adjustment are in evidence determines the so-called Problem Areas. Certain significant criteria which indicate areas in need of agricultural adjustment or areas potentially uneconomic are as follows:

a. Low value of farmland and buildings

b. High Public Relief (with Reservations)

c. Low farm income

d. Sparce population

e. Tax delinquency (not always)

f. High degree of idle and fallow farm land

g. Above average decreases in farm acreage

h. High percentage of woodland in farming areas

i. High use of State Equalization Fund.

As a means of delimiting possible Problem Areas, the various economic and social factors having a bearing on the above were studied and tabulated for each election district of the State and the results plotted on maps here included. Each of these maps point to certain areas characterized by undesirable conditions in some form. Where a sufficient number of such studies show coinciding areas of faulty conditions from different standpoints there is sufficient evidence to plot them in as Problem Areas.

2. Determining the Class of Problem.

With the location of the problem area it then becomes necessary to make an inventory of the Physical, Economic, and Social margins which may have caused the undesirable economic condition within these various areas and which would classify the type of problem involved.

In part, the various factors, any one of which or combination thereof, may contribute to the establishment of sub-marginal of maladjusted areas are:

A. Physical Margins

Soil of low fertility

Excessive slope

Poor Drainage

Erosion

Climate

B. Economic Margins

Poor transportation facilities

Isolation

Lack of markets

Farm Management Faults

Tenancy

C. Social Margins

Racial Factors

Aptitude

Attitude

The plotting on state maps by districts or county of these causative factors and a comparison with the previously found areas of low economic conditions will disclose areas of poor soil, excessive slope, high tenancy etc., coinciding with areas of low economic conditions previously determined. The result is the probable cause of the mal-adjustment or the type or class of problem.

At times the process may be reversed in locating Problem Areas as for instance the checking of areas of known sub-marginal soil types to determine whether expected low economic conditions exist. This does not always follow however.

The gathering, listing, and plotting of the inventorial materials also supplies some of the information helpful in determining the appropriate adjustment for the various areas.

In review the criteria locates the Problem Area, the inventory whether such areas are unsuited to agriculture or that agriculture is potentially sound but is in need of some form of adjustment or revitalization.

E. The various Classes of Major Land-Use Problems:

The major problems in land use which are likely to occur have been classified by the Land Policy Section of the National Resources Board as listed below. These are prescribed of nine classes with numerous subclasses. All do not necessarily apply to Maryland. In order to take into consideration certain types of problems not provided for, others have been added as noted under class 10. The numbers or numbers and letters assigned to the various classes have been used on the Problem Area Map in designating the types of problems involved. The list of classes follow:

The Various Classes
of
Problem Areas

Class 1.

Areas in which 20 percent or more of the whole number of farms are on land of such low productivity and/or are so scattered or isolated that arable farming is uneconomic and undesirable and on such farms should gradually be replaced in its entirety by some other use, e.g. forestry

or recreation or both. Farms that should be replaced by forest with various uses indicated by 1 b; by public properties not in forest, by 1 c.

Class 2.

Areas in which most of the economically desirable farms should be retired from cultivation because they have unusually high potential value for recreation or other public use.

Class 3.

Farming areas where, on 20 percent or more of the farms, a change in the size, tenure, or financial status of holdings, or the provision of sources of supplementary employment to farmers, is desirable in the interest of establishing a sound farm economy.

a. Areas where 20 percent or more of the farms are too small to permit the introduction of pasture or forest or soil-protecting or soil-improving crops needed for the improvement or protection of poor or eroding land.

b. Areas where 20 percent or more of the farms are too small for the effective use of farm machinery, rotations, or other conditions of efficient operation as will make possible an adequate family living.

c. Areas where 20 percent or more of the farms have been acquired by creditors through foreclosure.

d. Large holdings in the hands of individuals who are not in a position to bring about suitable conditions of operation, e.g. some of the large plantations in the southern states, operated by tenants or croppers.

e. Areas where supplementary employment attendant upon the development of a constructive type of management in adjacent timber areas would facilitate the continuance of agriculture that would otherwise be decadent.

Class 4.

Areas in which 20 percent or more of the farms are subject to serious erosion which may be controlled without necessitating a change in size of farms as specified in 3-a.

Class 5.

Farming areas which can be made capable of continued occupancy by other farm improvements, e.g., drainage, stream channel straightening.

Class 6.

Areas of forest or cut-over land not in farms and not in public ownership where a constructive form of land-use should be instituted.

NOTE: The Forest Service has reported on this class and only such areas which seem worthy of consideration but not reported by the Forest Service have been indicated on the accompanying maps.

Class 7.

(Not a Maryland Problem)

Class 8.

Areas where settlement is occurring or is likely to occur, but should be discouraged, at least until its desirability has been given further study.

Class 9.

Watershed areas where conditions of land-use tend to cause irregular stream flow, silting of reservoirs, or other injury to water supplies, and therefore, where some public control of land-use is necessary.

Class 10 a.

Areas which should be in public ownership and where it is proposed to withdraw only a portion of individual farms or only a small number of entire farms so as to establish public parkways along streams,

or preserve small areas of scenic or recreational value and to protect the sources of future public water supplies. Such lands, generally would be rough, wooded and undesirable for farming, but present no social or agricultural problem of sufficient magnitude to become a Class 1 problem. This classification is distinct from Class 2 which specifies areas of desirable farmland which should be withdrawn from agriculture because of high recreational value.

Class 10 b

Farming areas, not of an erosive type, which have been too severely cleared of woodland and within which a policy of establishing large farm wood lots should be instigated for better water conservation, its climatic value, windbreaks, the production of necessary fuel and as a source of supplementary income.

PART III

The Various Problem Areas of the State

PART III

THE VARIOUS PROBLEM AREAS OF THE STATE

(As designated on the Problem Area Map)

NOTE:

In the following discussion the various Problem Areas as presented are numbered by Roman Numerals (in combination with capital letters) corresponding to similarly numbered areas on the Problem Area Map. The type of problem is identified on the map and within the confines of the indicated problem area by Arabic numbers, or numbers plus letters, corresponding to the numbers assigned to the various classes of problems as previously described. Where more than one class of problem occurs within the same area they are indicated as far as possible, in the descending order of importance.

CLASS 1 PROBLEM AREAS

Areas in which twenty percent or more of the whole number of farms are on land of such low productivity and/oe are so scattered or isolated that arable farming is uneconomic and undesirable and on such farms should gradually be replaced on its entirety by some other use; e.g., forestry or recreation or both. Farms that should be replaced by forest with various uses indicated by, 1 b; by public properties not in forest, by 1 c.

ESSENTIALLY CLASS I PROBLEM AREAS

PROBLEM AREA I-A

Location: (Garrett, Allegany, and part of Washington county)

The Problem: (General Area)

That portion of the state which presents the greatest land-use problem both as to degree and extent of area is found in the counties above mentioned. The problem, in the main, is the agricultural use of land which is fundamentally unsuited for the purpose. Taken by a large and with but a few minor exceptions, the area lying west of Hancock is more suited to forest growth than arable farming. Located in its entirety with the Appalachain Mountain Region, rough and rugged topography, unsuited to arable farming is the major handicap of the section. That coupled with soils often of low fertility, a short growing season, large areas of sparse settlement, inadequate transportation facilities, isolation, and the rapid washing away of the surface soils on cultivated steep lands, makes for a situation that justifies arable farming in only a few most favored locations. The economic and social history of the area marked by failure and poverty, is the proof that arable farming, under such circumstances, is uneconomic and undesirable and that a better use of the undesirable portions of such areas should be made.

The Problem: (Garrett county)

The only area of any considerable extent in Garrett county which is desirable for arable farming is the table land running northeasterly across the central portion of the county, and characterized by Class "A" soils, rolling topography, and a fairly good economic status, and for these reasons, was not included within the Problem Area. Most of the remainder is marked by undesirable economic, social, and physical conditions, and has been designated on the map as Class I Problem Area.

On a county basis, the economic and social factors which single out the area as one in which mal-adjustment is strikingly apparent are listed below. In that portion of the county designated as the Problem area, and embracing the least desirable lands, such undesirable conditions would be magnified as indicated by maps and tables on an election district basis.

Criteria Indicating Need for Adjustment (county)

1. Highest percent of rural families on relief in the state. (21% August 1934, state average 5%.)

2. Value of farm land and buildings per acre lowest in the state. ($34.00 per acre according to U.S. Census 1930. Actual value probably considerably less.)

3. High allottment for current school expense from the State Equalization Fund (41%). (Although the tax rate is nearly the state average, the low property valuation does not provide adequate revenue for necessary public services.)

4. Probably high degree of tax delinquency.

5. Value of crops per agricultural worker, the next to the lowest in the State. ($590)

6. The value of all products per farm acre next to the lowest in the state, being but $9.00 per acre.

7. Scattered farm settlement in some sections, necessitating high pro-rate cost of public services.

8. Fewer farms on improved roads than any other county. Only 37% as based on the Census (1930) and the interpretation by the Census of an improved road is very liberal. The county average would be considerably lowered in the hillier, more scattered problem area portion.

9. High percentage of woodland. (Usually an excellent index to possible Problem Areas when such areas include farming enterprises.) Garrett county has the highest percentage of woodland of any county and nearly one-half of it is in farm ownership.

10. High degree of erosion on the steep-tilled lands.

Criteria Indicating Need for Adjustment (By district)

Where it has been possible to make calculations on an election district basis, the economic status of those districts included within the designated Problem Area is lower than the county average and considerably lower than districts in good lands. A reference to various criterial maps and tables here included is strongly substantiating. Some of the districts falling only partly within the Problem Area may show various averages above certain districts lying wholly within, but this only because of the influence of that part of the district overlapping into good territory. Allowances made for this situation would make the degree of undesirability prevailing in the designated area fairly uniform.

A study of those criterial factors available on an election district basis, and which can be applied more directly to the specific

Problem Area than can county statistics, discloses that the professed average value of farmland and buildings in districts within the Problem Area runs as low as $15.00 per acre (1930 Census). This is in district No. 4, or the Bloomington District. The farmland value alone, in the same district, is $9.00 per acre, whereas the State Average is $45.00 per acre. A personal inspection of the area disclosed poor housing conditions. All the districts or parts of districts included within the area are relatively low in regard to property values. It is found that the rural farm population is in most instances quite low and scattered, certain districts supporting but seven and eight per square mile. Some portions of the area attain a rural farm population density of twenty-one to the square mile as is the case in district No. 2, (Friendsville). Personal inspection of the area disclosed poor housing conditions and other evidences of poverty. Reference to the various criterial work maps and tables appended will bring out the different factors in detail.

Inventory of Factors which appear to be Responsible for Uneconomic Status of the Problem Area.

There are numerous prevailing conditions which in all probability are largely the underlying cause of the low economic conditions in evidence. They are of a character suggesting the basic unsuitability of much of the area for arable farming, notwithstanding that in the various districts of the area, there is an acreage in crops varying approximately from 10 to 20% of the total land area of the respective districts and with an average acreage in crops per farm of thirty-two acres.

The percent of the total land area in farms in the various districts varies from 32 to 75%. The inventory of the physical and economic conditions which appear to be responsible for the uneconomic status as indicated by the criterial studies follows:

1. Soil

The type of soil associated with the designated problem area is predominately DeKalb stony silt loam which, as far as basic fertility is concerned, is given a grade 4 rating by the Soils Classification Bulletin of the University of Maryland. This is only of moderate fertility. Under the consolidated classification of the various soil types, as previously described, this would come under the B group of soils, The textual discussion accompanying the soil survey map of the area would seem to indicate that much of the soil is most undesirable for arable farming, being so stony and rocky, that the use of farm machinery is often impossible, and cultivation has to be laboriously done by hand. It is difficult for the products from such farms to compete with those from sections where the use of labor-saving machinery has made it possible to produce more economically. Certain areas of this soil type are not quite so stony, but other factors often weigh against their desirability.

2. Prohibitive Topography:

One of the greatest handicaps of the area is that of topography, much of which is unsuited to arable farming. A comparison of the Problem Area, with the slope map, will show the Problem Area coinciding quite closely with the areas of excessive slope. The area is characterized by predominating slopes in excess of 10%. About half of it falls in the

10-20% slope type classification, the remainder in the twenty percent and over class. The former should rarely be in row crops; the latter never. (In the mountain region, because of the long steady grades, a 10-20% slope is more serious as far as erosion is concerned, than in areas where such grades may exist, but are of shorter duration.) Attempts are made to till the most impossible looking hillsides. Again the use of labor-saving machinery is impractical. Hand cultivation is necessarily practiced on such farms and when in grain, the primitive cradle has to be used in reaping. As a result of the steep slopes, topsoil does not stay long on such hillsides, and when exhausted in a few years another section is cleared for a fresh start. Most of the reasonably level areas are to be found as isolated flat knobs on the tops of precipitous hills, often necessitating a mile or two of almost impossibly steep and rocky private road to reach the farms located there. These relatively small level areas are infrequent and scattered, resulting in a dispersed farm settlement and high cost of public services. It is estimated that as a result of unsuitable topography and at times poor soil fertility, approximately sixty percent of the county is unsuited to arable farming.

3. Adverse Climate:

Garrett county has the shortest growing season of the State, averaging but one hundred and twenty-two days as compared to two hundred and thirteen, the maximum for the State. The high elevation (maximum about 3300 feet) results in late springs and early frosts. This short growing season is a severe handicap to agricultural pursuits, limiting

the variety of crops and bringing produce on to the market after the market has been glutted and the price broken by early products from more favored areas.

Precipitation is high on a yearly average, but the steep slopes result in quick run-off and prevents its full utilization, and dry summers are frequent.

4. Inadequate Transportation and Public Services:

Inadequate transportation facilities has much to do with the economic situation. The rough topography presents engineering difficulties and makes the cost of road construction all out of proportion to the relatively low number of families to be served. Consequently, the amount of improved roadway in the Problem Area is quite limited, only 37 percent of the farms being on so called improved roads, with a considerable portion of these being inadequate. Many of the roads are narrow, rocky, and precipitous trails, difficult of travel under optimum conditions, but impassable in time of snow or wet weather, which is characteristic for long periods. The few main highways serve directly but a minor portion of the farm population. The matter of poor roads results in a condition of isolation for a large portion of the population and in periods of adverse weather, prevents marketing of produce at opportune times, regular school attendance and social contacts.

The sparse population makes impractical the benefits of telephone and electrical services, except in areas adjacent to the main roads where the population density is more favorable.

5. Curtailment of Supplementary Incomes:

Supplementary incomes, which to a large extent in the past were derived from employment in connection with forest products, has been seriously curtailed as a result of the depletion of the forests and the inactivity of the coal industry which made considerable use of forest products.

6. Lack of Markets:

Cumberland is the only town of any size within the general region which has excellent rail and highway facilities coming into the town from without. The area finds much of foodstuffs coming in from other sources than the immediate vicinity.

7. Adjustment of the Area in General:

In consideration of the above factors indicating (1) unsuitability to arable farming and (2) conditions of sparse and scattered settlement necessitating high cost of public services, the area has been designated as a Class 1. Problem Area where a substantial part of the arable farms within the area appear to be uneconomic and undesirable and where a more economic use should be made of such lands.

In consideration of the various physical characteristics of the area, it would seem that its fundamental use is that of forest production, and thinking in terms of long-time planning the Problem Area in general should eventually be in forest cover and have various specific uses. Although the area has many disadvantages for agricultural pursuits, it boasts many features which lend it great value for other purposes.

Fortunately a large part of the Problem Area is already in forest cover, about sixty-four percent of the county is in woods, with the greatest concentration lying within the designated Problem Area. A high altitude, with accompanying reduced summer temperatures, outstanding scenic values, opportunities for hunting and fishing and water features, gives to the area great value for recreational purposes of which many Marylanders are not aware.

These conditions suggest the following adjustment and use of the Problem Area:

1. Public purchase of outstanding areas of mal-adjusted farm lands and the restocking of included open lands to trees.

2. The creation of sentiment favorable to the gradual withdrawal of farms in less pressing areas not contemplated for public purchase, but with public assistance where necessary.

3. The public purchase of areas of forest and farm lands, as additions to existing public forests within the area, as seem desirable by the State Department of Forestry.

4. Suitable areas to be devoted to forest production by private enterprise, but to have public supervision to prevent abuses that would be detrimental to the public good.

5. Public purchase and development as parks of areas having outstanding recreational or scenic value and not included within areas suggested for public purchase for other reasons. These areas and similar areas included within other purchase units to be distinct from state forest areas, to be intensively used and not to be generally cropped so as to preserve the atmosphere which only mature tree growth can give.

6. The public purchase of lands for additions to existing wild life refuges and game preserves and the purchase and establishment of additional areas as seem desirable by the Department of Conservation.

7. The establishment of Botanic preserves either within purchase units or by the public acquisition of other areas particularly desirable for the purpose. Such areas would have high scientific value. There is a large group of people interested in the preservation of areas of botanic interest and obtain their recreation from hunting plants instead of animals. General forestry practices tend to destroy botanic value in producing merchantable timber.

8. Zoning of all undesirable lands within the Problem Area, and not in public ownership, against further settlement.

9. Farms along the main roads and on the more desirable lands to be retained.

10. The resettlement along the main roads, as far as physical conditions permit, of those families removing from other sections.

11. The instigating of suitable publicity to familiarize the public with the recreational value of the area.

Notes on Specific Parts of the Problem Area:

A. New Germany and Friendsville Areas:

The specific parts of the Problem Area which seem to present the greatest agricultural and social problems are the New Germany Area and District number two, or Friendsville District. At this writing, steps are being taken for Government purchase of 15,000 acres in the New Germany section, where economic conditions have been particularly undesirable. A large percentage of this area is already in forest cover, and is relatively sparse in settlement. The Friendsville District, on the other hand, is rather closely settled, (Rural population twenty-one to the square mile) and is largely cleared of timber. Seventy-five percent of the area is in farms, with one hundred and eighty-nine farms listed. Although it is somewhat intensively used, the economic criteria are not

indicative of a wholesome situation. The value of land and buildings is according to the 1930 Census, but twenty-six dollars per acre, while the value of the land alone is but fifteen dollars per acre, both of which are in the lower brackets of the State.

The history of the area is apparently one of gradual decadence. Evidences of past prosperity can be seen. The topography, characterized by steep rounded hummocks of no great height, but presenting very little level land, has made sheep raising the logical use, since there is not sufficient level land to raise feed necessary for beef. Overgrazing and the depletion of flocks by uncontrolled dogs has resulted in a gradual decline in the raising of livestock. This seems to be the logical use of that part of the area which should be continued in agriculture. It is too steep for arable farming, although seventeen percent of the area is in crops. Suggested adjustment for the area follows:

1. The permanent retirement from agriculture of the least desirable farms and restocking to trees.

2. The enlargement of other farms so as to prevent over-grazing and also make possible an increase in the size of flocks; this to be achieved by moving out the poorer farmers and combining their farms with those of the more efficient type of operator.

3. Supplementary employment as far as possible within nearby timber areas.

4. Discourage the use of steep lands for crops; put again into pasture.

5. Adequate control of dogs, as necessary to the revitalization of sheep raising in the more desirable portions of the area. (Might serve as supplementary employment.)

B. Sang Run Area or District No. 6

The Sang Run District (and adjacent portions of other districts surrounding it) is unusually rugged in topography. The farms are few and

scattered, and the farm population is but seven per square mile is the lowest in the county. The total rural farm population is but 475, with a total population of 742. There are eighty-five farms in the district (1920 Census) occupying 13,711 acres or but thirty-two percent of the area which is relatively very low, the state average being seventy percent of the land surface in farms. These farms average forty-two acres each in crops. A personal examination of the area, and reference to topographic maps show that there is very little land where arable farming would be economic or desirable. The Census valuation of the farm land is nineteen dollars per acre. The scattered population and grases in general in excess of twenty percent would suggest other uses than agriculture.

The area, however, has unusual value for recreation, presenting wild and rugged topography of great scenic beauty, is largely in forest cover, and the beautiful Deep Creek Lake with approximately seventy-five miles of shore line adds the water feature so essential to recreational units. Hunting, fishing, and summer camping possibilities should make the area of unusual value to recreationists. The fact that a main highway out of West Virginia and connecting with the National Pike near Grantsville, passes through the area, gives it an accessibility which is greatly in its favor. Few people of Maryland and surrounding territory know of this area and go far afield for advantages no better than are at home.

Additions to existing game preserves could be made and others added. Public ownership of much of the area seems desirable for its preservation and development as a state park. As the natural area is not confined wholly within the SangRun District, abutting portions of other districts would

necessarily have to be included, particularly the northern portion of district number fourteen, (West Oakland) and part of Swanton. As Deep Creek Lake is privately owned, agreements for the public use of the lake and shore line would be essential.

Conclusion (Garrett county)

The adjustment in the land-use of the Problem Areas of the county as above outlined should be reflected by a general economic betterment of the county as a whole, and the basic use of mal-adjusted lands would be to the advantage of the State, as well. The prevention of erosion, the control of stream flow, and the preservation of forest and recreational resources has more than local significance. The relief from the necessity of providing public services to areas of scattered settlement, would result in a distant saving to the county treasury. The removal of farm families from undesirable lands and their reestablishment in more productive sections would be a social gain and also make possible an increase in the income of the county by the creation of a prompt tax-paying class from people, who to a large extent are now delinquent in that respect. The constructive use of forest lands would provide supplementary employment to residents of adjacent areas. Of great value to the county and the residents of the desirable farm areas would be the development of recreational features. Many vacationists would be attracted to the area and the supplying of their needs such as meals, lodging, and produce would add greatly to the income of the area. In the past not enough attention has been given by the residents to catering to

the needs of vacationists. With no facilities, pleasure seekers have not come into the area to such a degree as would be desired and considerable income has been lost thereby.

The intensive growing of specialized crops particularly adapted to the area such as potatoes and peas, and a more intensive use of the steeper lands for livestock would be desirable in the revitalization of the county. Subsistence homesteads and the bringing of industries to take the place of the decadent coal industry and to give part-time employment seems necessary as there is not sufficient desirable farmland to supply adequate agricultural employment.

The Problem Allegany and Washington Counties

This part of the Problem Area is in most part a repetition of Garrett county, except that the topography is yet more rugged and undesirable for arable farming; with soils of lower fertility, and with the lowest annual precipitation of the state. There is even less of the area suitable for arable farming than in Garrett county. It is estimated that twenty percent of the county is suitable for such use. As the factors indicating the need for adjustment and the causes for the evidence of the mal-adjustment are similar to that of Garrett county, they will not be repeated in detail. The value of crops per agricultural worker is lower than Garrett county, and the lowest in the state ($511), and the value of all products per farm acre is also the lowest in the state, being but $7.00 per acre. The same condition of sparse settlement holds. Only thirty-seven percent of the farms are on improved roads, the lowest rate next to Garrett. While Garrett county obtains forty-one percent of current school expenses from the State

Equalization Fund, Allegany uses but five percent. Fifty-two percent of the area is in farms, there being 1020 farms averaging 153 acres each, but with an average of only twenty-four acres in crops.

By reference to the Problem Area Map, it will be noted that most of the area east of Cumberland is designated as a Class 1. Problem, as is also the area on either side of Dan's Mountain and running north and south through Cumberland. The only two areas of reasonably level land having fair fertility, are found as narrow strips, one running from Keyser West Virginia along the Potomac River, passing through Cumberland and extending into Pennsylvania. The other lies between Big Savage and Dan's Mountain, with Frostburg in about the center of it. This also extends into Pennsylvania. The portion of the area north of Cumberland is not any too well blessed by natural advantages, but the utter lack of good farming sections and its favorable location in relation to Cumberland makes it possible to operate farms at a profit. The same area has been extended eastward to include the Flintstone section. The portion of the area south of Cumberland and extending along the Potomac River to Keyser is not in a particularly good economic state at present, judging from appearances. However, it is characterized by suitable topography and Class "A" soils. The lack of roads has probably been its handicap. With the recent construction of an excellent concrete road connecting Cumberland with Keyser there should be a marked improvement in the area. These reasons were responsible for not designating the area as Class 1. in spite of its apparent present low economic status, and scattered settlement. A rather narrow belt of land adjacent to the Potomac River as it turns east at Cumberland and extending eastwardly along the river from there, presents the only other area potentially good farm land.

A suggestion has been made as to the possibility of irrigating portions of this area by water drawn from the Old Chesapeake and Ohio Canal bordering it. This would be particularly desirable in view of the unreliable rainfall and the scarcity of good farmland. It is considerably warmer along the river and trucking would be a possibility.

About the least favorable district, agriculturally, included within the Problem Area is district number two, or Oldtown District. It has a very scattered rural farm population of but eight to the square mile. There are eighty-six farms with the high average of 241 acres per farm but with only twenty-nine acres in crops per farm. Fifty-nine percent of the area is in farms. The value of land and buildings (1930 Census) is low, being but $19.00 per acre. The value of land alone is placed at $15.00 per acre. The small difference between the two would seem to indicate poor housing conditions. This is the smallest difference of any district in the county. Although the district has some reasonably level land in the southern portion, the cost of lime necessary to make it productive would, it is said, be as much as the farms are worth.

Adjustment of the Area

The adjustment would follow essentially that of the portion of the Problem Area in Garrett county, previously described. Forest cover with various uses seems to be the fundamental use. A large block of the area is already in State Forest. This could well be added to, quite extensively, taking in all of the Oldtown and most of the Flintstone Districts, and the eastern portions of North Branch and Cross Districts.

Suitable areas of this public land could be assigned to particular uses, recreation wild life refugees, etc.

Dan's Mountain, south of Cumberland should be in public ownership as State Park and Forest. Scenic values from this mountain are unusually fine. One of the highest points of the state is at Dan's Rock, commanding a most remarkable view of the Cumberland Valley. This is now accessible, but by a very poor and little known road. Other points, along the crest of this mountain are equally fine, but more or less inaccessible. The construction of good roads into this area and the development of the recreational possibilities would attract many people to the section who would never come otherwise. By making all entrances to the area from the Georgie's Creek Side, those people of the stagnant coal industry could profit from the tourists and vacationists, and also be given supplementary employment in connection with any developments of the area. A ridge drive along the backbone of Dan's Mountain seems feasible and might serve as a connecting link between similar projects in Virginia looking toward its extension further northward.

PROBLEM AREA I-C

The Problem:

An area presenting agricultural and social problems, and at the same time, having unusually high scenic and recreational value is the Blue Ridge and Catoctin Mountain area lying mostly in Frederick county, and extending from the Pennsylvania border in a southerly direction to the Potomac River. It consists of two wooded mountain ridges, between which lies the rich Middletown valley; the two ridges joining in the northern portion. The western fork known as the Blue Ridge, straddles the boundary between Frederick and Washington counties while the eastern fork, lies wholly within Frederick county.

The area as outlined on the Problem Area Map is marked in its entirety by rugged topography and soils of low fertility. While the southern half of the area does not present serious social problems, as but relatively few farms are located therein, the northern portion where the two forks join, presents problems of considerable magnitude. It is here where public relief has been heaviest and in certain sections, the population is of low grade and where illiteracy and feeble mindedness is reported. Transportation and communication services are inadequate, and erosion is quite active. In the more hilly portions, the population is sparse and such areas would be uneconomic for that reason alone. The rough valley lying between the two main ridges; being the upper portion of the Middletown valley, and comprising district number ten of Frederick county, is on the other hand, more densely settled. This district has a farm population

of approximately thirty to the square mile with 185 farms listed, and with about seventy percent of the area in farm ownership. On account of the rough character of much of the land and the soil fertility covering fifty percent of the area being low, arable farming in much of the district is undesirable. The value of farm land and buildings is the lowest in the county. The upper portion of the district has not been indicated as a Problem Area. This represents that portion now in use for recreational purposes and residential property associated with the summer resort of Pen Mar.

Camp Ritchie, the State Military Reservation is within the area and a mile or so from Pen Mar. The State Sanitorium is also in the same vicinity. To the south, and on Catoctin Mountain, a large area is owned by the city of Frederick for the protection of the water-shed surrounding that municipality's water supply. Still farther south, and also on Catoctin Mountain, at a point directly west of Frederick, is Braddock Heights, a summer resort of considerable popularity and in satisfactory economic use. The remainder of the designated area is in private ownership except for several small units of but a few acres each. Farms wholly within the narrower portions of the two mountain ridges are not numerous. The area is mostly in woodland. There are other farms, the backs of which run up onto the mountainside and where land too steep for cultivation is in use.

Adjustment:

It is thought that the designated area as a whole should eventually be in public ownership and the uneconomic farms included, retired from cultivation. In general such farms should revert to forest cover. It seems essential that the high scenic and recreational value of the area

should be preserved unspoiled for the public benefit and without danger of injury by private enterprise. The stripping of the forest growth from the ridges, as is perfectly possible in the narrower portions, would be an irreparable loss both from the standpoint of scenic value and the erosion which would follow.

In addition to its physical adaptability to recreational use, the proximity of the area to the large metropolitan centers of Washington and Baltimore give it added value. A drive of an hour and half from either town takes one into an area providing outstanding opportunities for outdoor recreation and enjoyment of scenic beauty.

Beginning at the southern portion of the area, the two mountain ridges are relatively low, wooded and peacefully attractive. As they progress northward, they become wider, higher and more rugged. Where they unite in the northern portion, there is presented an area of wild ruggedness, with mountain streams, water-falls, virgin timber and rocky ledges. Opportunities for hunting, fishing, camping and horseback riding are there for the taking. The high altitude adds to the desirability for summer recreationists. Few are aware of these advantages which are practically at their doorstep and travel to Maine and New Hampshire for conditions little better and at considerable more expense. Under public ownership and properly developed and administered, opportunities for cheap vacations could be provided for the under-privileged as well as those of larger means.

In more detail, the best ultimate use and adjustment of the area would suggest the following:

1. Development of the northern portion as a state park for intensive recreational use. This would provide facilities therein for the care of the under-privileged and also for the well-to-do. Certain areas of open farm land could be developed into golf courses and athletic fields, rather than reverted to woodland.

2. Additions to be made to public water supply watersheds, and under municipal ownership.

3. The extensive use of the remainder, primarily as state forest, but with the development of trails for hiking and horseback riding and occasional small areas for intensive recreational use.

4. The extension over the Blue Ridge Mountain of the Skyline Drive, now under construction in Virginia.

5. The removal of uneconomic farms and the rehabilitation of the operators in better lands or their employment within the forest or park areas.

6. Supplementary employment, attendant upon constructive use of the forest areas or park development and maintenance, given to farmers on the better land in the area in order to facilitate continuance of agriculture in such areas. (Applies only to District No. 10, Frederick county which contains areas of good land.)

Such a program is of course, thought of in terms of long-time planning. Areas that should be given early attention are those presenting serious agricultural and social problems, found mostly in the northern portion.

PROBLEM AREA I-D

The Problem:

The area lies unbrokenly between Washington and Baltimore, and occupies parts of Prince George's and Anne Arundel counties. It is bounded on the west by the Baltimore and Ohio Railroad for its entire length, while on the east it is bounded by the Pennsylvania Railroad, except for an occasional break across the railroad right-of-way. The indicated area is approximately seventeen miles in length and averages about five miles in width. Because of its fundamental use for urban development, that portion of the soil area adjacent to Washington was not included as part of the Problem Area.

The soil, known as Tuxedo, and rated as sub-marginal to non agritural, is totally unsuited to economic farming by the average operator. Certain small patches of better soil types are included within the boundaries, but on the whole, the cost of farm operation on the type of soil predominating (and where conditions are such as to make it possible at all) is prohibitive except for individuals or agencies not concerned with the cost of putting such soil into suitable condition. The area as a whole is approximately fifty percent in farm ownership with the largest percentages on the patches of good land.

The area is quite heavily wooded, about fifty percent is in woodland. A ridge of attractive hills extends from Washington nearly to Baltimore. Also the Patuxent River of considerable beauty cuts across the

area at its widest point, and opposite Laurel, forming the boundary between Prince George's and Anne Arundel counties. The Patapsco River of remarkably fine beauty contacts the area at the northern limit and Indian Creek and its tributaries extends from Washington into the area nearly to the Patuxent River.

Within the area are included large holdings under public ownership. These are: Fort Meade of approximately 8000 acres, the United States Experiment Farm and Homestead Project; the two comprising approximately 5000 acres, and just bordering the area, the University of Maryland Experimental Farm of three hundred acres.

The area does not seem to present urgent need for agricultural adjustment although many of the farms present are uneconomic because of the poor quality of the soil. The Baltimore and Washington influence tends to modify the seriousness of the social standards that might otherwise be present. However, the situation is worthy of agricultural adjustment when the opportunity occurs, and settlement within the area should be discouraged since uninformed people do buy land here.

Of extreme value is the recreational opportunities of the area which is an unusually fortunate combination of circumstances present. With soils unsuited to agriculture, extending in an unbroken line from Washington to Baltimore; with a high percentage of woodland present; with water features and the presence of several large public holdings of common interest, there is produced a situation ideal for the establishment of an inter city Park and Forest connecting two large metropolitan areas. As the Forest Service

has not included this area as one which should be continued as forest land, although in the main that is all that it is fitted for, a 6b notation to that effect has been indicated on the Problem Area Map.

Adjustment:

a. The eventual retirement of uneconomic farms.

b. Farms on small areas of good land to be retained.

c. The gradual public acquisition of desirable forest areas to complete a forested link between Washington and Baltimore.

d. Forest lands undesired for public ownership to be in private ownership but under public supervision.

e. Additions to be made to existing public holdings as desired.

f. The development of a scenic parkway and pleasure drive connecting Washington and Baltimore to serve as an auxiliary route between the two cities, but to be closed to commercial traffic. Leaving Washington this drive could follow Indian Creek and pass through or adjacent to the University of Maryland Experimental Farm and the Government Experimental Farm at Beltsville, crossing the Patuxent River and into the Fort Meade Area and from thence to the Patapsco River and into the existing state forest area at Relay. The parkway could then divide, one fork going direct to Baltimore, and the other follow the Patapsco to quaint and historic Ellicott City and further north. This would serve as a desirable connecting link between the various public holdings which have considerable public interest and at the same time serve as part of a desirable state park and parkway system connecting other points of scenic recreational or other interest in the State. This particular section under discussion has added importance as it would serve as the local point of an expanded parkway system which is possible, desirable, and worthy of consideration. The parkway as previously described could continue along the Patapsco River to Glen Falls. From there on existing roads to the Prettyboy Dam area, thence to the "Rocks" and along Deer Creek to the Susquehanna River, crossing the Conowingo Dam at that point and from there on existing roads to suggested recreational and forest areas on "Elk Neck" an area referred to as number I-P on the map. All these areas have remarkable beauty and would achieve a scenic tour of considerable interest.

g. The development of intensively developed park areas and picnic grounds at suitable points along the parkway.

h. Allotment and sale of certain suitable residential areas made desirable by operations above noted and which would help defray the cost of the project.

i. Establishment of additional subsistence homesteads on suitable land included within the area, as part of the public development of the area.

PROBLEM AREA I-F

The Problem:

The area as indicated lies partly in Prince George's county and partly in Charles county; occupying parts of districts numbers eight and eleven in Prince George's county and part of district number eight in Charles county. It is adjacent to and lies south of Brandywine and Cedarville and surrounds the existing state forest by the latter name. The lower portion is at the head of Zekiah Swamp and the land there is affected by wet conditions. Most of the soil is of low grade, and is classed as marginal. Some of the farms are abandoned and the county agent reports others to be rather unproductive. Much of the area is now in woodland, estimated to be about seventy-five percent. The land, it is understood, can be purchased at a reasonable figure. The area as a whole, exclusive of the State Forest within, covers about twelve thousand acres of which unproductive farms and woodland not in farms would account for approximately eight thousand acres.

Adjustment:

a. The public purchase of uneconomic farms and woodland. The restocking of such farms to trees and the area as a whole added to the existing state forest.

b. Because of its proximity to Zekiah Swamp which abounds in game, such game would gradually migrate into the new area freed from habitations. This should eventually give the area value for recreation.

PROBLEM AREA I-G

The Problem:

The area lies in district number three or Cross Roads District of Charles county. The district, as a whole, presents the most serious economic condition of any district in the county as born out by statistics and personal inspection of the area. The value of farmland and buildings per acre is the lowest in the county. There are a large number of abandoned farms, and the County Relief Agency claims that there always has been a great deal of work in that particular section. About half of the district is in farms. The farms average 116 acres, but only fifteen acres are in crops per farm; there is more idle and fallow farmland than land in crops. The district is reported by the Maryland Forest Service to be seventy-eight percent wooded, and many heretofore have supplemented their farm incomes by work in the forest, and the sale of various timber products. Because of the low prices of the past few years, the people are in a bad condition financially. The farming, in some cases, of marginal soil, lack of roads, and no telephone communication service, has also contributed to the undesirable condition.

Although the district as a whole is economically unsound, it cannot be attributed entirely to soil conditions, as sixty-five percent of the area is of Class "A" soils; the remainder being marginal, so the factor of isolation above described seems to the prime cause. Indicated conditions are such that the district as a whole would seem to be sub-marginal economically. It is felt, however, that in consideration of the large percentage

of good soil, and the possibility of improving transportation and communication services, that the area in general could be revitalized, particularly as it is but forty odd miles from Washington. Just recently the first hard surface road has been built into the district which should improve conditions considerably.

That portion of the area indicated as a Class I Area and covering approximately 15,000 acres is characterized by soils only marginal, but because of the other associated unfavorable factors, it would become submarginal for agriculture. Some good land is included within the designated area so as to tie up with the existing state forest which occupies a portion of the northern part of the district. The distribution of the poorer soil is such that, although the bulk of it is within the central portion of a district, a narrow connecting link is present to give access to a smaller area of poor soil along the water front which later has considerable significance in the utilization of the area.

Adjustment:

a. Public purchase of indicated areas, both farmland and woodland not in farms.

b. Open lands to be either replanted to trees or let to restock naturally.

c. The area to be made a part of existing state forest with also extensive recreational use.

d. That portion of the area along the waterfront to be developed for intensive recreational use. Some of the open lands can be made into golf courses.

e. The reestablishment of those farmers on the poor land on nearby lands of better quality.

f. Employment of the local population as far as possible in the public development and maintenance of the area.

PROBLEM AREA I-H

The Problem:

This area occupies the eastern portion of district number nine, or the Patuxent District in Charles county, which is east of the town of Patuxent. The area within which undesirable economic conditions are reported by the county agents, embraces some 4000 acres. At the present writing there has not been the opportunity to personally inspect the area as has been done in most of the Problem Areas; however, a study of the soils and topographic maps indicate that such conditions could well exist.

Although the soils are Sassafras gravelly sand, and Sassafras sandy loam, they are fundamentally of good fertility and are subject to leaching and erosion under hilly conditions. The area embraced is marked by broken to hilly topography, particularly along Indian Creek. Hundreds of years of cultivation without sufficient thought to winter cover or the necessity of supplying humus to the soils, has apparently resulted in erosion and fertility depletion to a serious degree. About fifty-percent of the area is in woodland; seventy-five percent of the area in farm ownership, with the average size of farms 126 acres. It is estimated that there are about fifty farms in the area, fifty percent of which are uneconomic.

Adjustment:

Subject to further investigation it would seem that the uneconomic farms should eventually be retired from cultivation by public purchase; and the eroded and depleted cleared land be replanted to trees, or left to restock naturally. Suitable forested areas not in farm could be

acquired to complete a state forest. As the area borders to the east on the Patuxent River at a point (Benedict) famous for its fishing, the possibility of a recreational development together with the state forest project seems appropriate.

PROBLEM AREA I-I

The Problem:

An area in the southwestern portion of district number three, Calvert county, where erosion has been reported as having completely removed the topsoil on at least forty percent of the farms therein; and to such a degree that it is past redemption for agriculture and reforestation seems to be the only use which should be made of the land. The area has not been personally inspected, but the presence of steep and rolling phases of light Sassafras soils makes such a situation possible, particularly when considering the degree of faulty farm management practices, often encountered in the county, and the fact that only about thirty-five percent of the area is in woodland, which is not sufficient in relation to the amount of steep land present. The area embraced is from four to five miles in length and averages two miles in width.

Adjustment;

a. Public purchase of severely eroded farm lands.

b. Restocking to trees of suitable types.

c. Provisions made, where necessary, for the rehabilitation of those removing from the area on adjacent lands of more secure fertility.

d. The uneconomic farms of the area, with additional purchase of existing forest land, to become a state forest area or else, after restocking, sold for private administration but zoned against future settlement in the areas of ruined soils.

PROBLEM AREA I-J

The Problem:

An area on the southern most tip of St Mary's county within which is located Point Lookout, a spot of singular beauty and great recreational value. This area has on all sides fine beaches, and has the mildest climate in the state, which presents a distinctive far south atmosphere. The area already is popular for recreational purposes, although so far, not a great deal of development is present. There is always the danger of areas such as this being injured by private enterprise, by the building of unsightly structures and the destruction of naturalism, which is the charm of the place. The area is low in farm value, because of poor drainage, difficult in this case to remedy on account of the lack of sufficient fall. It is not an area which should be commercialized. Much of the water front is held for speculative purposes. In the event of the establishment of through traffic to Virginia by way of Southern Maryland, the area would gain tremendously in value for recreational use and should be protected for the common good.

Adjustment:

a. The area as far as possible should be in public ownership for recreation and state forest.

b. Attained by purchase of uneconomic farms.

c. By purchase of forest lands not in farms.

d. Public purchase as far as possible of water front property.

e. Zoning those areas not purchased so as to achieve a desirable type of development.

PROBLEM AREA I-K

The Problem:

The designated area extends east and west entirely across the southern portion of Dorchester county, and in areal extent covers some 80,000 acres. That portion of the county south of the Problem Area and indicated as a non-problem area consists almost wholly of tidal marsh, and being non-agricultural is therefore not a problem as far as land-use is concerned. This tidal marsh is, however, actually of more value than much of the agricultural land of the county as the muskrats trapped there, and in similar areas on the Eastern Shore are valued at over two million dollars annually.

The Problem Area itself represents the transition stage between the good land and tidal marsh, being characterized by large areas of swamp. Areas of firmer land, surrounding or extending into these swamps and in most part being the low phase of the Elkton silt loam are being farmed but, because of the slight elevation above sea level, (often not more than one or two feet) the serious problem of adequate drainage prevents an economic form of agriculture and because of the slight fall is difficult, if not impractical to remedy.

In portions of the Problem Area adjacent to the water front many of the farms are small and supplementary to the fishing industry. These would not necessarily enter into any adjustment of the area. Other districts or portions of districts, as for instance districts numbers six

and ten have not been included within the Problem Area because of agriculture being secondary to the fishing industry, the two being worked together.

A personal inspection of the area showed evidences of undesirable agricultural conditions. There are numerous one and two room homes in serious disrepair. In other portions of the area are seen a good number of once fine homes which now show the mark of agricultural decadence.

By estimate, about seventy-five percent of the area is in woodland, considerable of it not in farms. Available figures, as supplied by the Maryland Forest Service, often show a considerably lower percentage of woodland per district. This because a large proportion of many of the districts is tidal marsh, supporting no forest growth. The Problem Area as indicated does not include tidal marsh; therefore the percentage of woodland would be raised.

District figures on density of population show the districts involved to be very low. This again is misleading because such a large proportion of these districts being tidal marsh. On the available land in these districts the settlement is, in most part, surprisingly dense, considering the quality of the soil. Property values are low.

Partially within and partially bordering the area, the United States Biological Survey has a large holding for use as a game refuge. This is located at the intersection of districts numbers nine, five, and thirteen.

The presence of water fowl, in season, and in large numbers gives the area considerable value for recreation.

Adjustment:

On account of the lowness of the area and the consequent impracticality of drainage, except through diking, there is apparently little hope for the revitalization of agriculture. This and its physical characteristics suggest that the area be largely in public ownership with the following use distribution:

a. Public purchase of the uneconomic farms and necessary timberland not in farms, for the establishment of a state forest of a size desired by the State Department of Forestry.

b. Enlargement of existing Federal game preserve.

c. Establishment of additional game preserves either State or Federal, or both.

d. Development of parts of the area for suitable types of public recreation. (Hunting, trapping, and fishing) with proper management by logical agencies to assure an adequate functioning of such areas.

e. Certain areas of woodland not desired for public ownership to be under private management but zoned against possible settlement for farming purposes.

The adjustment of the area and the constructive use of the same would be most helpful in supplying supplementary incomes to the workers in the seafood industry during the off season as well as agricultural workers during the winter months.

PROBLEM AREA I-L

The Problem:

The area outlined occupies most of districts numbers six and seven of Worcester county, and also included the southern portion of districts six and eight of Wicomico county, as well as a narrow strip of the eastern portion of district number fifteen of Somerset county. In areal extent it covers some 70,000 acres.

The area outlined is characterized almost wholly by Portsmouth soils, rated sub-marginal and marginal. Lack of drainage of an adequate nature has been the factor preventing successful agriculture within the area. Drainage in this case would be difficult and unduly expensive per farm on account of the few farms involved. The area is approximately seventy-five percent in woodland (after deducting for the southern portion of districts numbers six and seven of Worcester county which present different soil types and a good farming section, largely cleared of trees.)

The area is sparsely settled, and the settlement is scattered. In district number seven, which is representative of the area as a whole, the farm population is but twelve per square mile, as determined by data based on the Census. If a deduction is made for the more densely settled portion of the district, not included in the Problem Area, and where good soil occurs, the figure would be considerably lessened, probably to about seven per square mile, which approaches the lowest in the State. Only about forty percent of the area is in farms with the average size of farms higher than in surrounding territory, but with the acreage per farm in crops low. Of particular significance is the value of farmland and

buildings which is the lowest on the Eastern Shore. The 1930 Census quotes a figure of $32.00 per acre for district number seven, Worcester county, which would also be representative for the area as a whole. Actual value at the present time would be considerably less. Farmland alone, is quoted at $18.00 per acre. Continuous tax delinquency is present to a significant degree.

The economic situation of the people in the area is often bad. In the past the farm income was supplemented by the sale of forest products. With the low prices of the past few years, this form of income has been seriously curtailed. Many of the old farms are growing up into timber to a large extent, most of the people having small gardens and growing just enough for their own needs. A personal inspection of the area showed the evidences of an undesirable economic situation. Poor housing conditions are common; roads are often impassable in time of rain.

A state forest is included within the bounds of the area, and several large holdings of forest land are being held by individuals for speculative purposes.

The various county agricultural agents involved, agree that the portion of the indicated area within their respective counties are uneconomic agriculturally.

In review, the various factors which indicate that arable farming is uneconomic and undesirable in the area and which suggest a more suitable use of the farmland included therein follows:

1. Soils of low productivity difficult to remedy.

2. High percentage of woodland.

3. Low property value.

4. Low percentage of area in farmland.

5. Small percentage of the farmland in crops.

6. Large amount of idle land not contributing to support of the community (woodland not cropped).

7. Low and scattered farm population resulting in high cost of public services, if such were made adequate for existing farms.

8. Poverty.

9. Poor housing conditions.

10. High degree of tax delinquency.

Reference to the various criterial maps appended shows graphically how the area stands out from surrounding territory in respect to many of these undesirable factors.

Adjustment:

In view of the above undesirable economic and physical conditions as found in the area, the following adjustment and use of the land is suggested, with forest production apparently its fundamental use:

a. Public purchase of all farm land as far as possible.

b. Public purchase of forest land not in farms as far as necessary to block up scattered public holdings as acquired above.

c. Public purchase of areas not in farms, having high value for game preserves or other public use.

d. Privately owned forest land not acquired by public purchase to be under public supervision.

e. The development of these publicly acquired lands as state forests, game preserves, and recreational units. (Hunting after being stocked with game).

f. The resale to individuals of publicly acquired lands not desired for continuous public ownership but zoned against any other use save forest production.

Operations in connection with the constructive use of the area would be of considerable benefit in supplying part-time employment to those in surrounding territory and also give full-time employment to many of those whose farms may be taken over as a result of the purchase program. Certain of the better farms could remain in the area for the use of some of these workers.

PROBLEM AREA I-M

The Problem:

An area of approximately 13,000 acres located in the southwest corner of Wicomico county and occupying portions of districts numbers two, three, and twelve. About half of the area is swampland with areas of firmer land surrounding the several swamps and on which farms are located in varying densities. In the northern portion farm settlement is quite sparse, while in the southern portion, settlement is much more concentrated. On all sides of the area are soils of high productivity. The soil making up the Problem Area, exclusive of the swamps, is Elkton silt loam, which when drained ranks with the "A" soils of the state. The practicality of drainage however, cannot at this time be determined without an engineering survey. The area is heavily wooded, particularly on the swampland.

Considerable emergency relief and chronic welfare work is reported for the area, particularly for the southern portion where the population is the heaviest.

The county agent is of the opinion that the area will sooner or later have to be abandoned for agriculture.

Adjustment:

a. A study should be made as to the advisability of draining the area. If drained, existing farms would be more productive and new land would become available for settlement.

b. If drainage proves impractical the uneconomic farms therein should be retired from agriculture by public purchase and returned to forest growth and managed as a state forest. The land not in farms and not needed for a unified state forest to be zoned against further settlement.

PROBLEM AREA I-N

The Problem:

The area known as "Pine Barrons" lies in Caroline county and in the eastern portion of district number five. The city of Federalsburg touches the southernmost end. It is bounded on the east and along its entire length by Marshyhope Creek. In length it approximates five miles and averages one mile in width, or about 3,200 acres.

Scattered farms are through the area but it is generally in forest cover. Hardwoods occupy a strip along the creek, while loblolly pine covers the remainder. The crops consist of early truck crops, melons, and sweet potatoes.

The soil is Sassafras sand with a sub-marginal rating, and suffers from being too wet in wet seasons and drys rapidly in dry weather. Large quantities of fertilizer are required to make a good crop and this only in the most favorable seasons.

Numerous roads traverse the area only for the purpose of serving the scattered settlements within. These are not through roads, such; service is taken care of by an improved road bordering the area to the east.

Adjustment:

In consideration of the scattered settlement necessitating the maintenance of unnecessary roads and the sub-marginal quality of the soil, it would seem desirable to withdraw the arable farms from the area and reforest them. But few of the roads now present are needed to supply

adequate through transportation. Its proximity to the town of Federalsburg, which borders on the area, and having a population of 1,300, together with the heavily wooded conditions, suggest possibilities for recreation along with public forest use. Portions adjacent to Federalsburg at least could well be devoted to such use; the remainder could be under private ownership, if for any reason the Department of Forestry would not be interested in administering the area.

PROBLEM AREA I-O

The Problem:

The areal extent of the area occupies nearly the entire surface of district number seven, Anne Arundel county. An inspection disclosed one of the most outstanding areas, as far as evidences of poverty and uneconomic conditions are concerned, so far witnessed within the State. It is debatable however, just how to classify the area but it has been placed in Class I pending further investigation.

The water front property is intensively used as a summer recreational area and is dotted with summer cottages. This portion presents no problem. The rural farm population is largely negro. Housing conditions are deplorable. One and two room shacks, unpainted and tumbling down are common. Most of the larger houses are in an equally bad state of repair. The rural farm population is quoted by the Census as being 568 which is approximately thirty-six to the square mile, the densest farm settlement in the county. Forty-three percent of the area is in farms, or 4,385 acres, representing seventy-nine farms, averaging fifty-six acres each. The acreage in crops averages eighteen per farm with nearly the same acreage in idle or fallow land. The area is largely cleared of timber.

The soil is of a type badly in need of drainage. It is understood that tomatoes were raised at one time to a considerable extent. The moving out of the local cannery, however, left the people without a local market and tomato production has depreciated considerably.

At the present time most of the people obtain the bulk of their living from the water, in fishing and oystering. Operations of farms is therefore supplementary in most part. It is for this reason that doubt exists as to the classification of the area, plus the high speculative value of the property. Favorably located with respect to securing livings from the water, it is wondered whether these people would be any better off elsewhere.

The matter of the practicality of improving agricultural conditions is questionable. The soil is Elkton silt loam, requiring drainage to be productive. As the entire area is, to the eye, perfectly flat and with an elevation of no more than a foot or two above sea level, drainage, except in a superficial way, may not be practical. This possibility however should be given study by those qualified, for if drained, the area should make a good trucking section and could stand closer settlement.

The Census quotes seventy dollars an acre as the value of land. Inquiries while in the area disclosed that the farm land was valued at about seventy-five dollars per acre; this of course is a purely speculative figure, because of the value of the nearby water front property. It would, however, make public purchase of the uneconomic portions of the area out of the question; for even though this high valuation undoubtedly is fictitious for inland properties, the owners will live in the hope of a growing demand for their properties as a result of increased recreational activity.

Adjustment:

None suggested until further study is possible. An economic and engineering study should be made.

PROBLEM AREA I-P

The Problem:

The designated area in Cecil county embracing approximately 13,000 acres, averaging two miles in width and eleven miles in length, extends southwest from Elkton along the central portion of the point of land known as "Elk Neck" which is bounded on the west by the Northeast River and on the east by the Elk River.

The area, as indicated on the Problem Area Map, is characterized almost entirely by soil of such low productivity (Tuxedo) as to be about the poorest in the state not classed as non-agricultural. Numerous relief cases are reported.

The greater portion of the area is wooded with some large areas of burnt-over land. There is, however, a small proportion in farms, represented by several widely scattered communities necessitating the maintenance of unnecessary roads and other public services. The topography is hilly and in places rough with the elevation of some hills, close to the shore line, rising to a heighth of better than three hundred feet.

Adjustment:

It would seem the best adjustment would be to remove the present farms from the area, and the area as a whole be put under public ownership as a state forest. On account of the large area of burnt-over land and the very low fertility of the soil, making re-stocking a slow process, private enterprise would not be expected to cope with the situation. Gravel and sand pits are said to be numerous and scattered. It would seem

desirable that these be concentrated within a suitable area so as to prevent promiscuous scaring of the countyside. This would be possible under public management.

On account of the strategic location of the population centers and natural advantages, the area would have considerable value for public recreational purposes which would possibly be its primary use provided adequate water frontage could be secured. Unfortunately, the value of water front property is quite high, being already extensively used by summer cottage residents and with considerable speculative ownership. In the event of the public purchase of the interior portion of the area, it would however, seem advisable to secure an adequate water front outlet. Pro-rated over the purchase area as a whole, adequate water frontage would add but little to the total cost per acre.

A few farms located near the water front area and on the more desirable phases of the Tuxedo loam type, may prove reasonably economic due to the proximity of the summer colony market for produce, and could be undisturbed. Further farm settlement however, should be discouraged as added competition would ruin markets for all. As the tendency at present is abandonment, represented by vacant farmhouses, this danger is not likely unless the recreational use of the water front takes on a significant increase.

The area designated Class eight just across the Northeast River from the Elk Neck Area just discussed and covering approximately 7,000 acres is characterized also by Tuxedo soil and a portion of Sassafras gravelly loam in a steep phase which is unsuited to farming. The latter is practically unoccupied and in forest growth. The Tuxedo portion is also

largely in forest cover. There are however, some farms present which occupy the occasional deeper and more suitable phases of the loan type of Tuxedo. These few places may be reasonably economic considering the proximity to markets but others may not be as fortunate in choice of site and for that reason further settlement should be discouraged. The proximity to towns and the scarcity of good land in the vicinity makes further settlement a possibility. That part of the area, not in farms, should remain in forest cover and in private ownership.

PROBLEM I-Q

The Problem:

A small area located in district number five, Harford county, lying in part, along the steep valley of Broad Creek, which empties into the Susquehanna River, and partly along several of the tributaries of Broad Creek, and to the south of that stream. The area outlined is steep to precipitous and characterized by soils of a sub-marginal character. Along Broad Creek the soil is Manor stony loam while the soil along the tributaries involved is Conowingo stony loam. These soils are not in any way adapted to arable farming. The area is rugges and heavily wooded. Not a great many farms are involved but there are sufficient, along with other considerations, to denote the area as Class I.

Adjustment:

The uneconomic farms therein should be retired from agriculture by public purchase. The wild natural beauty of the area, the water features, and the heavy woodland, gives the area high scenic and recreational values. Its location would fit in admirably as part of a desirable park and parkway system involving an upper portion of Broad Creek Valley not now under consideration and described under Problem Area VI-D, but which is not a Class I Problem. In order to unify the area for public use, necessary lands, not in farms, should be publicly acquired. The area involved would approximate 2,000 acres.

PROBLEM AREA I-R

The Problem:

A relatively small area of sub-marginal agricultural soil (Tuxedo) presenting both the loam and gravelly phases. It is located in district number one, Harford county, and lies in most part on either side of the Baltimore and Ohio Railroad. The Philadelphia Road also passes through the area. In areal extent it is approximately five miles in length and averages about two miles in width. The area is heavily wooded, only about twenty percent being cleared. The farms are not numerous.

Adjustment:

Although any adjustment in the use of the area is not pressing, the fundamental use of the land is for tree growth and it would appear that there is sufficient number of farms present on land rated low even for forest production, to warrant the encouragement of a gradual withdrawal of farms from the area and such lands returned to forest. There could of course be some modification in the use of the land adjacent to the Baltimore-Philadelphia Road.

PROBLEM AREA I-S

This area is a continuation into Maryland of a more extensive area in Delaware, closely paralleling the state line north of the point from which it overflows into Maryland. This small area consists of marginal to sub-marginal soils. At the point indicated by the designated area a small amount of Elkton sandy loam is present. This soil is quite extensive on the Delaware side of the line, but stops practically on the border. Along the Maryland side of the line and running north the predominating soil is Sassafras sandy loam, a Class "A" type. This is a small area presenting but a minor problem but could be considered for adjustment along with any adjoining problem in Delaware.

PROBLEM AREA I-T

The Problem:

The area is located on the southernmost tip of Calvert county and is bordered on two sides by the Chesapeake Bay. About one-third of the area embraced is characterized by soils classed as sub-marginal; in this case, the steep phase of Sassafras sandy loam. About seventy-five percent of the land is wooded, pines and hardwoods being equally divided. On the bay shore between Cove Point and Little Cove Point is the longest and widest coastal beach anywhere along the coast line of the Maryland portion of Chesapeake Bay. It is two miles in length and in places one-fifth of a mile in width.

West of the outlined area is Solomons Island, and the various small bays and wide creeks which make up one of the beauty spots of Southern Maryland, and very popular with sportsmen who make Solomons Island the focal point for their fishing. In all, the area covers some 8,000 acres and involves about twenty-five farms.

Adjustment:

Because of the high percentage of woodland, even on the moderately good soils, much of the area could well be publicly owned and administered in general as a state forest. However, because of the high recreational value, certain areas, particularly along the shore and adjacent to the above mentioned beach, should be intensively developed for recreational use. Some areas of good soil would probably have to be secured to unify such a project. The inland forestry area would be suitable for extensive recreational use. The fishing, hunting, beaches and water features; the heavy woodland and mild climate in both summer and winter, together with the natural beauty of the section, seems to make the area outstanding, for recreational use.

CLASS 2 PROBLEM AREAS

Areas in which most of the economically desirable farms should be retired from cultivation because they have unusually high potential value for recreation or other public use.

CLASS II PROBLEM AREAS

PROBLEM AREA II-A

The Problem:

An area located approximately three miles south of Frederick, Frederick county, Maryland, which because of high historic and sentimental value should be preserved and developed for the public good. This area is the Monocacy Battlefield where, it is claimed, the Union forces under General Lew Wallace held back a much larger force of Confederate troops until the arrival of other Union troops in Washington which saved the Capital.

Adjustment:

The area should probably be bought and administered by the Federal Government as a national Park, similar to Antietam Battlefield. The location is particularly fortunate, as it is adjacent to the Monocacy River, and would fit in perfectly as a specific point of interest along a suggested parkway following that stream and described under Problem AreaVI-A.

PROBLEM AREA II-B

This is an area of good land on the southermost tip of Elk Neck, Cecil county, known as Turkey Point. In the event of a public recreational and forest development of other portions of the section characterized by sub-marginal soil and previously discussed under Problem I-P, it would be most desirable to have at least a portion of this area

in public ownership because of its natural beauty, large water frontage, and as an outlet to the water from the sub-marginal soil area above mentioned. It would not be necessary to acquire the entire area, but only that portion which, on investigation, will prove most desirable from a recreational standpoint. The area as designated is approximately two miles in length and one-half mile in width.

PROBLEM AREA II-C

This is a small area surrounding Port Tobacco which is south of La Plata and in district number one in Charles county. Port Tobacco played an important part in the early history of Southern Maryland and there is much sentiment connected with the place. Once a thriving port through which a large portion of the shipping of Southern Maryland was handled, changing conditions have reduced it to but a few scattered houses. One or two historic buildings are still standing, but in need of repair.

As part of the program of preservation and restoration of historic areas which is now in progress in various parts of the country, it is thought that Port Tobacco is worthy of consideration. As far as Southern Maryland is concerned it is second only to St Mary's City in historic interest. Historical and patriotic organizations would cooperate in any such undertaking. Such a development would be advantageous economically to the section, in that visitors would be attracted to it. The area necessary to acquire would be relatively small, possibly not more than one hundred to one-hundred and fifty acres for the preservation of the immediate site of Port Tobacco, however, a continuation of public property

south of Port Tobacco and along either side of Port Tobacco Creek, would give to the area considerable recreational as well as historic value. The soils predominating in the area are Class "A" soils. Not more than two or three farms would be involved in any public development of the area. If public interest can be aroused sufficiently, it is possible that a private development of the area would materialize, as has been the case with respect to other sites of historic interest.

PROBLEM AREA II-D

An area within district number six, Charles county, is suggested by the Game Division of the State Department of Conservation, as being desirable as a game preserve, and wild life refuge. It contains approximately 8,000 acres and lies south of Waldorf. About one-third of the area is in arable land, the remainder being in forest. A reference to the soils map of the area indicates that much of the soil is of Class "A" types. However, the land is relatively low in price, and is considered by the State Game Warden to be an excellent site for an upland game refuge.

PROBLEM AREA II-E

Baltimore city has never made sufficient use of its remarkably fine water front areas, in the development of publicly managed recreational units. Early steps should be taken for at least the acquisition, if not the development, of suitable areas before industrial growth of private enterprise has made such lands unavailable.

The area indicated on the map and located southeast of Baltimore City would seem to have high value for a public recreational space for the use of the people of Baltimore City. It is only about seven miles from the city limits, and is not now heavily built up. The area as indicated on the map, is diagramatic. Not all the land included would necessarily have to be in public ownership.

The soils of that part of the area along the water front are Class "A" soils and mostly cleared of timber. The interior is quite heavily wooded, however, and for that reason might fit in well as part of a more pretentious recreational development than merely the water front portion.

A detailed survey of the entire water front near Baltimore would undoubtedly bring to light other areas which could be made available as sites for publicly administered recreational units or which should be in public ownership for the purpose of conserving or establishing aesthetic values. Much of the water front, close to Baltimore, is already heavily commercialized with little opportunity left for a program of beautification without involving considerable expense. Such a survey should be made however at an early date, for the provision of attractive water approaches to cities and the establishment of recreational areas in connection therewith, has high civic and economic value.

PROBLEM AREA II-F

This is an area in Anne Arundel county, district number three and bordering the Chesapeake Bay, which because of its proximity to Baltimore City, could well be given consideration as a site for a publicly administered recreational unit. The area, as indicated, is diagramatic in

extent. A survey would be necessary in order to choose the particular portion of the area desired and available. Much of the water front is already quite heavily built up and in use by summer residents. Some effort should be made to secure certain portions of the water front area still available before the opportunity is gone.

The natural beauty, water features, woodland, and proximity to Baltimore would suggest a summer camp for the under-privileged. The portion of the area along the Magothy River is the most heavily wooded and apparently is the least built up, which would indicate it to be the most promising portion to be taken under consideration. The water front outlet to any such development could be relatively small but the area as a whole could expand back of the water front, and embrace a considerable acreage of woodland of almost equal value for the type of development mentioned. The presence, in places along the Magothy of some steep hills, gives to the area added value over the northern portion which is relatively flat.

Although the soil types present are among the best in the county for truck crops, very few farms are present.

PROBLEM AREA II-G

This area which has unusual value for use as a county park is in Caroline county. It is located near Williston and straddles the boundary line between districts numbers six and eight. Its feature is a large mill pond of singular beauty, surrounded in most part by a fringe of trees over-hanging the water. The pond itself is nearly a mile in

length and average one-fifth of a mile in width. The area is most favorably located for a park of this type, being only four miles from Denton, the county seat and on the main road, passing north and south through the county. The road crosses the dam responsible for the lake. The land surrounding the lake is flat and largely in cultivation. These open areas would easily lend themselves to development as athletic fields and other play spaces. It would be necessary to secure only a relatively narrow strip of land surrounding the lake for all desirable purposes. Three hundred acres should be adequate. In the event that the land owners involved are public-spirited citizens it may be possible to secure the land at but little expense as in the majority of cases there would be only small portions of individual farms involved.

Properly developed and administered, equipped with park buildings, and necessary equipment for full recreational use, the area should prove of great value to the county, not alone for recreation, but as a place to hold public meetings, and meetings of various county organizations desiring to blend recreation along with civic activities as is so often practiced where facilities are available.

The necessity of taking early steps for the preservation for public use of an area with so many advantages cannot be too strongly urged. Private enterprise can quickly destroy such an area.

PROBLEM AREA II-H

This area is similar in nearly all respects to the one just previously described, having natural beauty, accessibility, and high potential value for recreation. It is located in the western portion

of Wicomico county and in district number one, about a mile from Mardela Springs. The main road from Salisbury and the east touches the lower end of the lake known as Mockingbird Pond, which is one of a series of three lakes extending from near the Delaware state line. The lake, adjacent to the main road, or all three, with suitable areas of surrounding land, should be given consideration as a possible county park area. Mockingbird Pond is about one-half mile in length. The chain of three lakes is in length about two and one-half miles, each lake separated by approximately half mile intervals but connected by Barren Creek. Mockingbird Pond and certain surrounding land would probably provide a sufficiently large unit for all necessary purposes, and would involve only about two hundred acres of land.

PROBLEM AREA II-I

This area of 3,000 acres in Dorchester county is said by the Game Division of the State Conservation Department to be desirable for an upland game refuge. The presence of three mill lakes would serve for the propogation of fresh water and game fishes. The soil types of the area are predominantly high grade although the economic condition of those within the area is reported to be somewhat undesirable.

PROBLEM AREA II-J

This is another area recommended for purchase by the State Department of Conservation as being desirable for a game refuge. It is located in Worcester county, between Snow Hill and Pocomoke, and is bordered by

by Johnson's Bay. There are 3,346 acres in all the tract; 972 of which is arable land; 1,265 acres of woodland; and 1,109 acres of marsh land. It is said that this property would make not only an excellent area for upland game, but also a migratory bird refuge as well. It also is a fine muskrat area.

CLASS 3 PROBLEM AREAS

Farming areas where, on twenty percent or more of the farms, a change in the size, tenure, or financial status of holdings, or the provision of sources of supplementary employment to farmers is desirable in the interest of establishing a sound farm economy.

PROBLEM AREAS 3-A and 3-B

(Areas where 20 percent or more of the farms are too small for the effective use of farm machinery, rotations, or of other conditions of efficient operation and to provide a reasonable living).

Location:

(Calvert, Prince George's, Worcester, Wicomico and Somerset counties).

The opinion of those in the best position to be able to judge the degree that such a situation exists, is that the problem is actually not pertinent to the State of Maryland, particularly as Maryland is characterized by the family type of farm. Numerous small farms do exist which in themselves would be too small to provide an adequate family living but most of these are associated with the fishing and oystering industry and the products of such farms merely supplement the income from other sources. The same situation holds in considerable numbers around cities and towns, and in the coal and timber areas where the farm is not the only source of income. These part-time farms should not enter into the problem of farms too small.

Approach to the determination of such possible areas:

In order to determine whether such areas may possibly exist within the State, ;it was first necessary to fix some minimum economic size for the various types of farms. No complete published data based on the question at hand is available for Maryland. It is thought that it is impractical to set an arbitrary minimum limit for the various farm types that would be generally applicable as so many circumstances modify requirements

such as soil fertility, climate, ability of the individual operator, proximity to markets, etc. (Many farmers are making reasonably good livings on surprisingly small acreages.) These factors would result in a wide variation in size necessity. However, in order to make a study without the benefit of field research, a more or less hypothetical minimum figure applicable to the various types of farms had to be determined. Opinions of those most qualified were secured. As there was no general agreement, the predominating figure was used, or where this was not possible, an average figure as expressed by the various authorities for a given farm type. As calculations for determining whether there are present, areas where farms too small exist to any significant degree, must necessarily be based on the Census, the figures were on occasion modified slightly to meet size group classifications of the Census. The composite recommended minimum size for the various farm types follows. Consideration was given to the Census definition that the source of forty percent of the income determined the farm type.

Type of Farm	Recommended Minimum Acreage
General farms	50
Cash grain (very few purely cash grain)	100
Crop specialty (potatoes, tobacco)	50
Fruit	20 (10)*
Truck	20 (10)*
Dairy	50
Animal specialty	100
Poultry	10 (3)*
Self sufficing	20

NOTE* Adjustment downward can be made for poultry and truck farms in areas around metropolitan districts.

NOTE: Add twenty percent for farms in poor and eroding land where thought necessary.

It is interesting to note that a comparison of the various recommended sizes with the Census brings out the fact that the minimum sizes fall, in nearly all cases, in the Census size group containing the largest number of farms. Perhaps this alone would be a good index of the minimum size for each class.

In determining the percent of farms within an area which are too small to be economic, the approach was to delete all farms, as listed in the Census below the minimum size for each type, reducing the requirements for truck and poultry farms in areas adjacent to large markets as such farms can be economic on considerably smaller acreages.

No limit was fixed for the abnormal farm group which includes part-time farms, institutional farms and farm estates where a complete living is either not expected or vital. The unclassified farms were also necessarily ignored. After securing the number of farms falling below the stated limit, twenty percent of them were eliminated from consideration as representing those farms which come within an acre or two of attaining the minimum (but which cannot be determined due to the broad classification of the Census) and which farms although below the limit, have for various reasons proven adequate and which we know there are considerable numbers.

The results of the studies which were made on a county basis and on the estimated sizes above noted, indicate that of the twenty-three counties, five have twenty percent or more of the total number of farms

too small. They are but slightly over the twenty percent basis. These counties are as follows:

Calvert	25%
Prince George's	22%
Worcester	21%
Wicomico	22%
Somerset	22%

However this is an estimate and a detailed field survey and economic study relative to the minimum size for various types of farms is needed to determine definitely the situation. A reference to the following complete tables by county and by type of farm, will give in detail the situation as it exists for each of the five problem counties. It will be noted that in Calvert county, it is the crop specialty type of farm, which in this case is tobacco, which boosts the average. The same is true of Prince George's county and for that reason the tobacco section only is indicated on the map as a Problem Area of this type. In Worcester county, it is the general farm which in most cases is at fault with the crop specialty farm second, probably potatoes. The same is also true of Wicomico county. When it would have been expected that truck crop farms would perhaps have been the type to raise the average, only ninety-five out of a total of 558 truck farms are below minimum size. However, in Somerset county, it is the truck farm which is most at fault; there are 141 truck farms below twenty acres out of a total of 479. General farms rank second.

Number and Percent of All Types of Farms Less Than Recommended Minimum Size, by County

Counties	Total number farms	No. Farms less than minimum size	*Corrected No. below minimum size	Percent All Farms too small
Allegany	1020	82	64.8	6.4
Anne Arundel	1555	357	285.6	18.4
Baltimore	3412	829	663.2	19.4
Calvert	1103	341	272.8	24.8
Caroline	1922	386	308.8	16.1
Carroll	3149	627	501.6	15.9
Cecil	1424	232	185.6	13.0
Charles	1592	281	224.8	14.1
Dorchester	1598	243	194.4	12.2
Frederick	3434	635	508.0	14.8
Garrett	1839	118	94.4	5.1
Harford	2260	361	288.8	12.8
Howard	1098	173	138.4	12.6
Kent	971	111	88.8	9.1
Montgomery	1971	375	300.0	15.2
Prince George's	2291	625	500.0	21.8
Queen Annes	1464	146	116.8	8.0
St Mary's	1392	294	235.2	16.9
Somerset	1561	430	344.0	22.0
Talbot	1113	176	140.8	12.7
Washington	2552	546	436.8	17.1
Wicomico	2193	612	489.6	22.3
Worcester	2190	577	461.6	21.1
State **	43105	8557	6845.6	15.3

* 20% deducted in order to compensate for those farms coming within an acre of two of the minimum size, but which the broad classification of the census size groups does not indicate and also those farms which although below minimum have for various reasons proven economic.

** State total does not include 98 farms in Baltimore City

Note: See tables appended showing by county, farms too small by type.

Number and Percent of Farms Below Minimum Size
By Type and County

Type of Farm	Recommended Minimum Size	Allegany County Total Number Farms	Allegany County No. Less Than Minimum	Anne Arundel County Total Number Farms	Anne Arundel County No. Less Than Minimum
General	50 acres	252	29	199	89
Cash Grain	100 "	6	1	10	5
Crop Specialty	50 "	4	-	533	96
Fruit	20 "	44	-	20	3
Truck	20 "	16	7	335	79
Dairy	50 "	93	8	38	3
Animal Specialty	100 "	24	4	7	4
Poultry	10 "	17	2	74	18
Self Sufficing	20 "	240	31	113	60
Abnormal	Not a problem	248		179	
Unclassified	" " "	76		47	
Total		1020	82	1555	357
Total (*Corrected) No. Less than Minimum			64.8		285.6
Percent of all Farms Too Small			6.4		18.4

* 20% deducted in order to compensate for those farms coming within an acre of two of the minimum size, but which the broad classification of the census size groups does not indicate and also those farms which although below minimum have for various reasons proven economic.

Number and Percent of Farms Below Minimum Size, by Type and County

Type of Farm	Recommended Minimum Size	Baltimore County Total Number Farms	Baltimore County No. Less Than Minimum	Calvert County Total Number Farms	Calvert County No. Less Than Minimum
General	50	741	311	55	13
Cash Grain	100	79	19	-	-
Crop Specialty	50	35	11	937	313
Fruit	20	43	13	-	-
Truck	20	580	154	6	3
Dairy	50	533	70	-	-
Animal Specialty	100	14	5	-	-
Poultry	10	344	108	7	-
Self Sufficing	20	311	138	30	12
Abnormal	Not a problem	627		38	
Unclassified	" " "	106		30	
Total		3413	829	1103	341.0
Total (*Corrected) No. Less Than Minimum			663.2		272.8
Percent of All Farms Too Small			19.4		24.8

Type of Farm	Recommended Minimum Size	Caroline County Total Number Farms	Caroline County No. Less Than Minimum	Carroll County Total Number Farms	Carroll County No. Less Than Minimum
General	50	761	159	946	278
Cash Grain	100	143	46	118	38
Crop Specialty	50	4	2	4	1
Fruit	20	34	10	20	4
Truck	20	368	54	109	13
Dairy	50	55	7	858	105
Animal Specialty	100	-	-	53	16
Poultry	10	260	74	497	74
Self Sufficing	20	80	34	207	98
Abnormal	Not a Problem	91		268	
Unclassified	" " "	126		69	
Total		1922	386.0	3149	627.0
Total (*Corrected) No. Less Than Minimum			308.8		501.6
Percent of All Farms Too Small			16.1		15.9

Number and Percent of Farms Below Minimum Size, by Type and County

Type of Farm	Recommended Minimum Size	Cecil County Total Number Farms	Cecil County No. Less Than Minimum	Charles County Total Number Farms	Charles County No. Less Than Minimum
General	50	263	65	165	33
Cash Grain	100	167	23	6	-
Crop Specialty	50	5	3	928	206
Fruit	20	9	2	-	-
Truck	20	32	6	5	3
Dairy	50	505	55	6	2
Animal Specialty	100	17	4	4	1
Poultry	10	91	36	23	3
Self Sufficing	20	100	38	154	33
Abnormal	Not a problem	187		216	
Unclassified	" " "	48		85	
Total		1424	232	1592	281
Total (*Corrected) No. Less Than Minimum			185.6		224.8
Percent of All Farms Too Small			13.0		14.1

Type of Farm	Recommended Minimum Size	Dorchester County Total Number Farms	Dorchester County No. Less Than Minimum	Frederick County Total Number Farms	Frederick County No. Less Than Minimum
General	50	585	99	1031	264
Cash Grain	100	79	17	140	35
Crop Specialty	50	-	-	27	5
Fruit	20	23	9	29	7
Truck	20	542	44	15	6
Dairy	50	40	6	1223	81
Animal Specialty	100	5	1	57	25
Poultry	10	65	22	151	41
Self Sufficing	20	89	35	379	171
Abnormal	Not a problem	88		331	
Unclassified	" " "	82		51	
Total		1598	243	3434	635
Total (*Corrected) No. Less Than Minimum			194.4		508
Percent of All Farms Too Small			12.2		14.8

Number and Percent of Farms Below Minimum Size, by Type and County

Type of Farm	Recommended Minimum Size	Garrett County: Total Number Farms	Garrett County: No. Less Than Minimum	Harford County: Total Number Farms	Harford County: No. Less Than Minimum
General	50	776	44	357	120
Cash Grain	100	8	3	13	6
Crop Specialty	50	20	1	6	1
Fruit	20	-	-	7	-
Truck	20	-	-	152	10
Dairy	50	140	16	930	93
Animal Specialty	100	76	11	51	21
Poultry	10	52	4	164	40
Self Sufficing	20	426	39	192	70
Abnormal	Not a problem	316		324	
Unclassified	" " "	25		64	
Total		1839	118	2260	361
Total (*Corrected) No. Less Than Minimum			94.4		288.8
Percent of All Farms Too Small			5.1		12.8

Type of Farm	Recommended Minimum Size	Howard County: Total Number Farms	Howard County: No. Less Than Minimum	Kent County: Total Number Farms	Kent County: No. Less Than Minimum
General	50	534	68	404	30
Cash Grain	100	83	20	135	1
Crop Specialty	50	14	3	3	-
Fruit	20	17	3	4	-
Truck	20	15	2	125	24
Dairy	50	264	13	80	7
Animal Specialty	100	49	9	4	1
Poultry	10	56	24	39	12
Self-Sufficing	20	80	31	50	36
Abnormal	Not a Problem	151		102	
Unclassified	" " "	35		25	
Total		1098	173	971	111
Percent of All Farms Too Small			12.6		9.1
Total (*Corrected) No. Less Than Minimum			138.4		88.8

Number and Percent of Farms Below Minimum Size, By Type and County

Type of Farm	Recommended Minimum Size	Montgomery County: Total Number Farms	Montgomery County: No. Less Than Minimum	Prince George's County: Total Number Farms-	Prince George's County: No. Less Than Minimum
General	50	493	103	226	115
Cash Grain	100	216	35	15	7
Crop Specialty	50	49	16	1027	295
Fruit	20	26	7	23	7
Truck	20	21	5	263	86
Dairy	50	347	27	39	13
Animal Specialty	100	119	13	13	6
Poultry	10	123	55	103	28
Self Sufficing	20	191	114	184	68
Abnormal	Not a problem	339		286	
Unclassified	" " "	47		112	
Total		1971	375	2291	625
Total (*Corrected) No. Less Than Minimum			300		500
Percent of All Farms Too Small			15.2		21.8

Type of Farm	Recommended Minimum Size	Queen Annes County: Total Number Farms	Queen Annes County: No. Less Than Minimum	St Mary's County: Total Number Farms	St Mary's County: No. Less Than Minimum
General	50	588	50	174	31
Cash Grain	100	266	6	14	1
Crop Specialty	50	-	-	926	228
Fruit	20	3	1	-	-
Truck	20	82	14	8	-
Dairy	50	84	8	4	1
Animal Specialty	100	10	3	7	2
Poultry	10	67	7	27	3
Self Sufficing	20	111	57	124	28
Abnormal	Not a problem	181		61	
Unclassified	" " "	72		47	
Total		1464	146	1392	294
Total (*Corrected) No. Less Than Minimum			116.8		235.2
Percent of All Farms Too Small			8.0		16.9

Number and Percent of Farms Below Minimum Size, by Type and County

Type of Farm	Recommended Minimum Size	Somerset County: Total Number Farms	Somerset County: No. Less Than Minimum	Talbot County: Total Number Farms	Talbot County: No. Less Than Minimum
General	50	328	117	378	46
Cash Grain	100	19	3	311	49
Crop Specialty	50	64	15	-	-
Fruit	20	225	84	12	2
Truck	20	479	141	79	20
Dairy	50	45	5	42	9
Animal Specialty	100	3	2	5	3
Poultry	10	178	46	51	8
Self Sufficing	20	41	17	64	39
Abnormal	Not a Problem	147		137	
Unclassified	" " "	32		34	
Total		1561	430	1113	176
Total (*Corrected) No. Less Than Minimum			344.0		140.8
Percent of All Farms Too Small			22.0		12.7

Type of Farm	Recommended Minimum Size	Washington County: Total Number Farms	Washington County: No. Less Than Minimum	Wicomico County: Total Number Farms	Wicomico County: No. Less Than Minimum
General	50	868	223	617	236
Cash Grain	100	249	34	9	-
Crop Specialty	50	12	4	292	178
Fruit	20	280	73	231	32
Truck	20	26	16	558	95
Dairy	50	289	34	25	9
Animal Specialty	100	48	15	3	-
Poultry	10	76	36	186	32
Self Sufficing	20	271	111	120	
Abnormal	Not a problem	349		92	30
Unclassified	" " "	84		60	
Total		2552	546	2193	612
Total (*Corrected) No. Less Than Minimum			436.8		489.6
Percent of A ll Farms Too small			17.1		22.3

Number and Percent of Farms Below Minimum Size, by Type and County

Type of Farm	Recommended Minimum Size	Worcester County: Total Number Farms	Worcester County: No. Less Than Minimum
General	50	649	257
Cash Grains	100	38	9
Crop Specialty	50	596	170
Fruit	20	83	16
Truck	20	59	9
Dairy	50	6	2
Animal Specialty	100	8	4
Poultry	10	290	41
Self Sufficing	20	181	69
Abnormal	Not a problem	197	
Unclassified	" " "	83	
Total		2190	577
Total (*Corrected) No. Less Than Minimum			461.6
Percent of All Farms Too Small			21.1

State **

Total	43105	8557.0
Total (*Corrected) No. Less Than Minimum		6845.6
Percent of All Farms Too Small		15.3

** State total does not include 98 farms in Baltimore City.

CLASS 3 C PROBLEMS

(Areas where twenty percent or more of the farms have been acquired by creditors through foreclosure.)

No available data is at hand whereby this problem could be answered with accuracy. A study of courthouse records would be essential for the securing of such material.

In order to obtain some generalized idea as to the possible seriousness of such conditions in Maryland, the opinions of various persons in the best position to judge were obtained. Also questionnaires were sent each county agricultural agent asking them to interview local bankers, real estate dealers, and officials in the county government, and together with their personal knowledge to indicate districts where a condition, as outlined, might hold and to state the degree, if existing.

The replies from the agents, who in most cases made conscientious investigations, were to the effect that such a condition was not a Maryland problem. Where figures were given five percent was the highest number of farms, for any given district, which had been secured through foreclosure. Carroll county reported not more than one percent. Somerset reported considerable foreclosure in one or two of the districts surrounding Princess Anne. This was the result, however, of the recent failure of banks with a consequent tying up of funds. The extent of such foreclosure was not given. No report was received from one of the counties but as it is located in one of the better sections, it probably has no such problem.

CLASS 3 D PROBLEM AREAS

(Large holdings in the hands of individuals who are not in a position to bring about suitable conditions of operation; e.g. some of the large plantations in the Southern States operated by tenants or croppers.)

A. The 3 D Areas in General. (Found in Problem Areas III-A, III-B, and IV-C.)

Tenancy becomes a real problem in Maryland, particularly in the counties of Southern Maryland and on the Eastern Shore. In designating areas where the degree of tenancy seems serious those areas within which forty percent or more of the farm land is being operated by tenants has been shown. The amount of farm land was chosen rather than number of farms feeling that the effect of tenancy on the land is of more lasting moment than the social phase and also because the percentage of farm land operated by tenants exceeds in all counties except Garrett, the percentage of farms tenant operated. Garrett has but ten percent of its farm land under tenant operation.

This approach discloses that ten of the twenty-three counties have tenant land in excess of forty percent. The highest concentration of counties is in Southern Maryland where all four counties have forty percent or more of the farm land under tenant operation. Kent county is the outstanding county in this respect, the high figure of sixty-one percent of the farm land being tenant operated. Three counties; Washington, Talbot, and Caroline have in excess of forty percent of the farm land worked by tenants, but because the favorable condition of

agriculture within these areas would seem to indicate that the owners were in a position to bring about suitable conditions of operation, these have not been included on the map.

The counties involved and the percentage of tenant farm land in each follows:

Calvert.....47%	Prince George's...40%
Charles.....40%	Queen Annes.....55%
Dorchester...46%	St Mary's.....44%
Kent.....61%	

B. A discussion in detail of the various areas where tenancy seems to be one of the prime causes of evidenced mal-adjustment or where the system gives promise of developing uneconomic agriculture in the near future follows:

PROBLEM AREA III-A

(Southern Md.)

Note: As the undesirable economic status characteristic of a large part of Southern Maryland is apparently the result of a combination of interwoven circumstances rather than tenancy alone, the discussion on this area will endeavor to cover some of the other factors as well.

The Problem:

The area as plotted on the map covers practically all of Southern Maryland and embraces the southern portions of Prince George's and Anne Arundel counties, and the whole of Charles, Calvert, and St Mary's counties.

The problem in general, seems to be the revitalization of a potentially sound agricultural section. The area is an enigma in many

respects, and one in which the optimum utilization has not been achieved. Possessed of many advantages over other sections of the state, and supporting many fine farms; with soils predominantly of potentially high fertility; with sub-marginal soils occupying less than ten percent of the entire area (and these in small scattered units) being in proximity to good markets; with ample rainfall and a growing season three to four weeks longer than elsewhere; the area should be the garden spot of the state. Nevertheless, a study of various economic factors indicative of mal-adjustment reveals conditions at times most undesirable when looking at the situation in terms of averages. The area, in general, is marked by low property values, frequent poverty, poor housing conditions, farm abandonment, a decrease in farm acreage above the state average and in certain parts of the area, sparse settlement. A high percentage of the farm land is wooded and although the average size of the farms is large, only small acreages per farm are in cultivation. Although the value of crops per acre is the highest in the state (which is indicative of the potential productivity of the land) the value of crops per agricultural worker is low, ranking just below the areas of Garrett and Allegany counties where farming is practiced on sub-marginal land, and where the lowest value of crops per agricultural worker is found. The value of all products per farm acre is uniformly lower than any other section of the state, ranging from nine dollars per acre in Charles county to fourteen dollars per acre in Calvert county. St Mary's county lies in between with a figure of twelve dollars per acre. Only

one other county shows a lower value of all products per farm acre, and that is Allegany. In view of the high value of crops per acre, this would seem to indicate that there perhaps is now sufficient acreage in cultivation to give an adequate living and might reflect on the industriousness of certain portions of the population. With the exception of Prince George's and Anne Arundel counties, a relatively high use is made of the State Equalization Fund, being in the higher brackets and ranking next to Garrett the highest user in this respect. It is interesting to note, however, that taxes are paid on time.

Probable causes of mal-adjustment.

If it is not primarily the soil, climate, or lack of markets which is responsible for these indications of uneconomic agriculture for the average farmer it must be accounted for in some other way. Listed in brief the following undoubtedly have much to do with the situation as found:

1. Historical and social background.
2. High degree of tenancy.
3. High degree of farm labor turnover. (tenants)
4. Abuse of the land.
5. Large negro population.
6. Lack of good roads.
7. Isolation.
8. Insufficient use of livestock.
9. Insufficient diversification of crops.

10. Intensity of farm use too low and many farms too large.

11. Considerable idle land and land not in farms not contributing to support of the community.

12. Lack of industriousness on the part of certain classes.

13. Contentment with conditions as they are.

14. Insufficient density of population.

15. Lack of local markets.

16. Insufficient industries.

The historical background has probably had much to do with the conditions as found. In the early history of the area the plantation system was in vogue, which gave all the wealth into the hands of a few and much of the population in the employ or control of a relatively few landowners. With the disappearance of these plantations a new economic and social life was necessary for many. The area has not as yet had time to adjust itself to these new conditions and the people still carry with them the spirit of the plantation system.

Tenancy.

One of the results of the plantation system and its disappearance has been the large negro population and high degree of tenancy. The percentage of the farm land under tenant operation varies from forty percent to forty-seven percent which latter is in Calvert county. Tenancy to a high degree has long been recognized as an evil, which is injurious to the land and to the advantage of neither the tenant nor the owner. The present form of lease in general use, is to the disadvantage of the owner, while the tenant at times is subject to usury

and exploitation. The tenant farmer is unstable, moving frequently from farm to farm, often depleting the fertility of the soil as he goes. A recent survey made by the University of Maryland, Department of Agricultural Economics (Exp. Sta. Bul. 341) indicated "that for representative high tenancy counties the tenants remained on farms for approximately one-third the length of time as owners, averaging only four years. The maximum for owners". In view of the ratio between owner and tenant length of occupancy it can be seen that a poor tenant farmer can, in a given length of time depreciate three times as much farm land as a poor owner operator and probably more as the tenant operated farm averages larger than that of owners.

Abuse of the Land.

Considerable of the land in Southern Maryland has been seriously abused. Although about forty percent of the area is now in woodland, there are evidences that practically all of Southern Maryland was at one time or another under cultivation. Some of it was allowed to go back into timber because of fertility depletion. Improper crop rotations and often the lack of rotation at all; failure to keep the steeper lands in winter cover, with resulting erosion; failure to provide for introduction of humus into the lighter soils, and the practice of working land for what fertility is naturally in it and then moving on, is prevalent over the section and has contributed to the depletion of some of the land. Fortunately the soils in general are of a type which responds readily to treatment and fertility can be restored where erosion has not been too serious.

Racial considerations;

Southern Maryland has the highest concentration of negro population in the state, forty-seven percent of the population is negro in Calvert county, forty-six percent in Charles and thirty-six percent in St Mary's. A reference to the appended criterial maps shows the negro distributional pattern coinciding quite closely with areas of low income, low property values and other marginal conditions. The inference to be drawn perhaps, is that the negro has contributed to the growth of marginality. Illiteracy is high among the negroes in this area. In Charles county, fourteen percent of the negroes are illiterate.

Lack of Roads and Isolation:

Until but a relatively few years ago the mode of transportation for much of the area was by water. Also some of the best land is in the proximity of the water fronts. A great many of the farms consequently were located close to the water so as to make use of water transportation. The roadways into the section from the north were located through the central part of the area to serve the inland people and these for a long time were none too good. Little attention was paid to lateral roads connecting with the water fronts. With the change in the transportation system and abandonment of water transportation, many farms were left with but very poor and unimproved road outlets to the main roads and their farmsteads being on the water and with the farm to the back, it became necessary to traverse the entire depth of the farm in order to reach a very doubtful public road. This long standing condition of poor

roads, general throughout the area, has been a distinct handicap and had influenced to a considerable degree the type of agriculture practiced. In bad weather it is impossible to get perishable truck crops onto the market quickly. Tobacco, which can be marketed at leisure, was planted to the exclusion of many other possible products. This has prevented the diversity which would be desirable, both from the standpoint of the immediate welfare of the farming population and the preservation of soil fertility by proper rotations. During the past few years the roads have been greatly improved so far as the main highways are concerned and this undoubtedly will be reflected in a general improvement in economic conditions. Much more improvement of the lateral roads are necessary, however, as in 1930 only about fifty percent of the farms were on improved roads. The fact that all of Southern Maryland occupies a large peninsula of from eighty to ninety miles in length and with no ready means of crossing the Potomac River from the lower portion, has prevented any through traffic from the north coming into the area on its way into Virginia and southward. This together with the poor roads, and in places, lack of communication services, has produced a condition of isolation within the area and prevented the free flow of visitors, recreationists, etc. into or through the section, with the loss of accompanying material benefits therefrom. It is possible, however, that the people prefer the atmosphere of isolation.

Lack of Local Markets.

Although the area is close to the large markets there is little in the way of a local market for products. The towns within the area are small and a study of the rural farm population chart and figures in

in comparison with the total population shows that while the farm population per square mile is relatively high the total population is comparatively low indicating that most of the people are themselves farmers with little in the way of a local market for produce.

Insufficient Industries.

Industrial activity could be improved within the area to give supplementary employment to some, and full-time employment to others. There are a few canneries, but some of these are becoming inactive. Lumbering, and lumber mills, until the present period of low prices, have provided employment to considerable numbers. The fishing and oystering industry however, has been the source of the greatest employment and has eased the economic situation greatly. If everything else should fail certain of the population can obtain food and supplementary employment from the water.

Adjustment:

Although the area has problems of a serious nature, it also has advantages which other sections cannot claim. The problems are, in general, of a type which in course of time will yield to a proper attack. Some of these disadvantages are already being overcome. It is felt that little if any removal of farms is desired even though economic indices may indicate, certain undesirable conditions and the land at times be low in fertility because of abuse. There would be no point in removing people from depleted land who were responsible for the land being in that condition, and placing them on better land with the probable result

that the new land would also soon become depleted as the result of sub-marginal farming. The better plan would seem to be a modification and adjustment of practices which have lead to the present situation and the supplying of desirable public services necessary to revitalize the area.

In brief the adjustment which would seem to be helpful to the area follows:

1. A decrease as far as possible in tenancy. Perhaps to some degree this may be accomplished by some form of high taxation for large acreages making it unprofitable for individuals to own and lease farm land. There is also the possibility of hand picking worthy tenants and by public assistance staking them to farm ownership.

2. Home ownership as a stabilizing influence.

3. The incompetent negro to become a source of labor and not a farm operator.

4. Further improvement in road conditions and more good lateral roads to open up new territory and bring existing farms closer, in point of time, to markets.

5. Promote an increase in permanent population.

6. Promote an increase in transient population.

    a. By the construction of a bridge to Virginia near the southern part of the area.

    b. Development of more and better recreational facilities.

    c. Restoration and featuring of historic sites to attract visitors.

7. Higher development of public services other than roads such as telephone, electric power, and schools.

8. Improved farm practices such as erosion control, crop rotation, etc.

9. A greater diversity of crops; many of the soils, as for instance Sassafras sandy loam are suitable for such diversity.

10. A greater use of livestock and more attention to dairying, particularly desirable on some of the steeper land subject to erosion. Light soils and difficulty in developing pastures, has retarded this type of activity. Lespedeza it is understood has proven successful for pasture, in the area. Greater activity in the raising of hogs of suitable breeds seems desirable. Because of the light soils and good drainage poultry raising could become of more importance.

11. A reduction in size of farms too large for economic use by subdivision for closer settlement.

12. The more intensive use of farms.

13. The establishment of more industrial activity. Southern Maryland perhaps is passing up several opportunities for such development. As an example we find the Carolinas shipping logs to the Eastern Shore for veneering purposes. Southern Maryland has soils capable of growing excellent timber of various kinds and could just as well grow the desired types; supply the Eastern Shore and set up veneering plants locally.

14. The setting up of cooperative or subsistence homesteads under public management to care for the incompetent type farmer who requires guidance and supervision to carry on farm work properly, and for whom no other place is found.

15. Certain areas of marginal type soils which are already heavily wooded should remain in forest and be administered in part by the State Department of Forestry and by private owners. These areas to be zoned against further settlement but with no thought of removing existing settlement unless widely scattered.

PROBLEM AREA III-B

(Kent, Queen Annes and Cecil counties)

The area in question covers districts numbers one and two of Cecil county, and the whole of Kent and Queen Annes counties.

The Problem:

In this area we have the highest degree of tenancy in the state. Kent county has sixty-one percent of the farm land under tenant operation. Queen Annes nearly as much, the percentage being fifty-five. While Cecil county has but thirty-seven percent of the farm land tenant operated, that portion of the county indicated on the map and contiguous to Kent county, presents identical physical conditions and undoubtedly similar conditions of tenancy. The entire area is a most excellent farming section. However, many farms are in large acreages. The average size of farms in Kent county is 164 acres, which is the highest in the state, and with districts running as high as 202 acres on an average. The same condition holds, to a lesser degree, in other portions of the area. Because of these large acreages difficulty is being experienced, according to the county agents, in financial ability to give adequate management, particularly in view of the high degree of tenancy. The chain farm system which is common in the area, does not allow for adequate supervision of these leased farms, the owners of which are living, in many cases, out of the state. Farm depreciation under these conditions is going on.

Adjustment:

A. Change in tenure. (See discussion under Problem Area III-A)

B. Change in size of farms. (See III-A)

PROBLEM AREA IV-C

(Dorchester county)

Because the adverse influence of tenancy in Dorchester county was thought to be secondary to the importance of inadequate drainage the area has been designated on the map by a number assigned to Problem Areas of that type. Dorchester county has forty-six percent of the farm land worked by tenants and for that reason is a distinct problem. Any adjustment would follow more or less the suggestions on that factor as outlined under III-A.

CLASS 3 E PROBLEM AREAS

(Areas where supplementary employment attendant upon a constructive type of management on adjacent forest lands would facilitate the continuance of agriculture that would otherwise become decadent.

PROBLEM AREA VII-A

The 3 E Problem Area here indicated is located in Allegany county and follows a streak of fairly good soil occupying a portion of the George's Creek valley close to the western boundary of the county. It constitutes one of the few areas in Allegany county where arable farming seems to have any chance at survival during the course of time. In the George's Creek area are a great many part-time, small scale and self-sufficing farms, along with numerous normal farms. The coal mining industry, which at one time flourished up and down the valley, has apparently seen its best days and is now in a stagnant condition because of the depletion of the supply, and the inability of the small operator, necessarily characteristic of the area, to compete with the richer veins and large scale operators of other sections. Many of the small farms were run supplementary to work in the mines, or farmers supplemented their farm incomes by work in the forests in supplying timber necessary to mining operations. With the eventual complete disappearance of the coal industry, in any worth while commercial scale, those people who were dependent in one way or another on the industry to supplement their farm incomes, will require some other source of part-time employment. A constructive type of forest management and development of recreational

resources in the nearby areas suggested for public management in the discussion on Problem Area I-A would be most helpful in relieving the situation. There would possibly be from seventy-five to one hundred farms involved in the problem.

PROBLEM AREA VII-B

The other indicated 3 E area is in the western portion of district number two, Garrett county. The broken topography of the area limits the fundamental agricultural activities very much to sheep raising. Since this industry is more or less decadent at present because of reasons already discussed under Problem Area I-A, it will take considerable time to revitalize this basic activity. Supplementary employment within nearby forest lands would be helpful until this revitalization is brought about. Because of a lack of diversity in agricultural activity possible in the area, there will be many who would often be in need of some form of supplementary income. Certain of the rougher and least desirable farms in this district have been recommended for eventual withdrawal. These lands would require reforestation. This work and other work in connection with the constructive use of new forested lands nearby and suggested for public ownership, should be the source of employment for considerable numbers.

PROBLEM 3-F

(Drainage Districts which are in serious financial distress)

In spite of the large areas of land requiring drainage and within which drainage is carried on, the problem does not apply to Maryland. As far as can be discovered, there are no organized drainage districts with any outstanding bonded indebtedness. Although there is in existance, a state enabling act, for the purpose of setting up bonded drainage districts, advantage has not been taken of it. There are what are called tax ditches, where residents of a given area agree to be taxed for certain improvements and maintenance, but it has been a kind of "Pay as you go" arrangement, with no bond issues involved. The tax is collected in some counties as part of the general tax bill, and does not involve tax delinquency, in particular for drainage. In other counties, the treasurers of the various ditches collect taxes as needed. In many instances farmers within an area contribute toward a mutual fund for the construction and maintenance of ditches involving their particular properties. Construction may progress, or maintenance lag in accordance with their willingness or ability to pay. Some bonded drainage projects of the past have long since paid out or become totally inactive.

CLASS 4 PROBLEM AREAS

Areas in which twenty percent or more of the farms are subject to serious erosion which may be controlled without necessitating a change in size of farms as specified in 3-A.

EROSION

General Observations

Maryland takes considerable pride in the recognition which in general is given by her farmers to the necessity for erosion control, and the high percentage of farm land kept in winter cover. It can be said that within the state there are no large areas where serious erosion, as comparable to the severe damage experienced in other sections, occurs and which require a major adjustment in land-use for that reason alone. No large areas are being abandoned as the result of the washing away of the countyside nor is there, under existing agricultural practices, much indication that this is in anyway eminent. There are areas of course, where erosion is a distinct problem, but they are of such a character as can be taken care of by sound farm management practices without materially changing crop production. These areas follow:

Southern Maryland

(Problem Area III - A)

The area which presents the greatest erosion problem both in degree and extent is much of Southern Maryland and in those counties and districts as designated on the map by the number "4". The area affected as indicated on the Problem Area Map embraces the lower two-thirds of Anne Arundel county, the whole of Calvert, election districts numbers one, two, four, seven, eight, nine and ten of Charles county, all of St Mary's, with the exception of districts one and seven, and districts numbers four, five and fifteen

of Prince George's county. It is not the contention that erosion is a problem over all the land embraced. Considerable areas of level land are present and presenting no erosion problems, and many farms on the steeper land are well-cared for. However, about two-thirds of the land is potentially erosive and it is estimated that erosion is serious on approximately thirty percent of the farms in the areas indicated. Erosion is, apparently, most pronounced in Calvert, and Anne Arundel counties where the flat areas of Leonardtown soils are not present.

Much of the potentially erosive areas are characterized by light sandy soils, often accompanied by rolling, and along the streams, steep topography. The steep phases are generally left in woodland and present no problem. However, the areas presenting a rolling phase can suffer considerably by erosion and loss of fertility unless farmed conscientiously and suitable farm practices followed which, unfortunately, the people in too many instances fail to do. The area is suffering from abuse and neglect. Farm management practices designed to prevent erosion and preserve fertility are, on a large scale, lacking. A common crop rotation is tobacco, tobacco and tobacco carried on until fertility is gone, when another field is taken over to be given the same degrading treatment. In an area where it is particularly necessary to have the land in continuous crops or cover, land lying fallow all winter is common with the accompanying erosion and loss of fertility. This is particularly applicable to the tobacco sections where the practice is to give tobacco land

a two year "rest" but with no protecting cover crop except the natural growth of weeds. This practice is the reason that the statistics indicate such a large amount of idle and fallow farm land in the area which in this case should not be taken as an index to uneconomic conditions.

It appears that erosion may be controlled without necessitating elimination of particular crops or that erosion controlling crops would add significantly to production of any specific additional crop. It would make necessary a higher percentage of tilled land per farm in order to get in needed rotations. Studies made indicate that the amount of tilled land per farm in the area is far too low for economic farming or the preservation of the soil. The added crops should, to a large extent, be green manure and winter cover crops which would be returned to the soil; the added organic material serving to lessen erosion and at the same time the restore the fertility that has in many instances been lost through neglect.

The substitution of deep plowing, instead of shallow plowing is another practice which should be given consideration in the prevention of erosion in the area, as is also, the matter of the alignment of furrows with respect to the contours rather than fighting the contours as is so frequently noted. Furrows which run directly up and down hill are inviting rapid erosion, even on moderate grades.

The leaving of occasional sod strips has also proven most helpful in checking erosion and can be attained with but little effort.

The writer cannot get much support for simple terracing, but still thinks there are occasions where such a treatment would be helpful in reducing erosion and at the same time conserving moisture, particularly

desirable on light soils.

The high degree of tenancy so often accompanied by careless farm management, undoubtedly has considerable bearing on the unnecessary amount of erosion in the area. Provisions for a larger percentage of owner-operated farms or a policy of long-term leases would probably be helpful in summarizing the erosion problem in Southern Maryland. We have the following:

1. Causes

    a. Potentially erosive soil.
    b. Faulty management practices in the handling of the soil.

2. Adjustment

    a. Correction of errors in farm management.

        1. The filling of larger areas.
        2. More attention to crop rotations.
        3. Winter cover crops.
        4. Tilled land in continuous crops or cover.
        5. Incorporation of greater amounts of organic material into the soil.
        6. Deeper plowing.
        7. Sod strips.
        8. Terracing where practical.
        9. More owner operated farms.
        10. Education.

KENT COUNTY

(Problem Area III-B)

In the northern portion of Kent county and occupying a relatively narrow stretch along the Sassafras River, is an area where gulley erosion is giving considerable trouble. Kent county as a whole is quite level, but the area as indicated on the map is that portion of the county

dropping off to the river and at times presents fairly steep slopes. The soils are light in character and in places erosion is active. The farms in the area are large, in fact too large in many instances for adequate maintenance.

It is the thought that a change in the cropping system would not be necessary for control, the erosion resulting from neglect and lack of maintenance, rather than a faulty cropping system. Terracing and repair of gulleys should be all that is necessary.

Erosion on the Bay Shore

An erosion problem of considerable magnitude is the evidence of a quite serious land recession all up and down the Chesapeake Bay and the large tributaries, where the land is elevated above the water. Except in a few cases, protective beaches are conspicuous by their absence anywhere along the bay and considerable damage is being done by the undercutting and caving in of banks as a result of wave action during times of storm. The high vertical cliffs south of Chesapeake Beach are an example of what is going on along other portions of the shore line where, although the cliffs may not be so high, the recession is just as rapid. This recession is more rapid than most people realize, as during the period of one storm the land has been known to move back twenty-five feet or more in certain areas. It is understood that the lighthouse at

Annapolis, standing several hundred feet off the shore, was at one time on land. Twelve years ago the radio towers at Annapolis were built 2,000 feet from the shore; today they are in danger of tumbling into the water. This recession of the shore line is quite a problem to those having farms or residences on the water fronts, both the farms and the residences being in danger of going out to sea. In the course of time this loss of land can attain serious proportions. The control of land recession of this character is, of course, an engineering problem, but one which is needful of early attention and is applicable to many sections along Chesapeake Bay. The construction of seawalls in certain places would be necessary while in others the building of jetties would help to break the wave action and at the same time tend to build up a protective beach. An example of this is seen at Matapeake where until stone jetties were built the bank was receding rapidly. Now there is a fine beach, where there was none before, and the area is amply protected. The planting of trees, shrubs, or other protective covering is in no way effective in this type of erosion.

Miscellaneous Notes on Erosion

The area of the Piedmont Plateau which cuts across the central portion of the state in a northeasterly direction, lying northwest of Baltimore and Washington, and extending to about Frederick, is at times hilly and contains large areas of soil types potentially erosive. Fortunately, this section generally is being well taken care of by good farmers and is the most prosperous section of the state. Dairying is

a major activity and much of the land is in pasture. The more precipitous terrain is kept in woodland and the steeper open hillsides in suitable cover crops. The tilled land is given crop rotations, calculated to keep erosion at a minimum. Winter cover is general and the mechanical handling of the soil and general maintenance is such, that any evidence of erosion is checked on sight. Fertility is being maintained to compensate for any unavoidable sheet erosion which is bound to accompany arable farming on other than flat land.

Considerable serious erosion is occurring in the mountainous sections of Garrett and Allegany counties, where in certain areas most of the top soil is gone. These areas however, have been suggested for eventual retirement from arable farming as discussed under Problem Area I-A, and therefore do not come under the present classification. No change in the cropping system or size of farms would be of particular benefit in checking erosion on these steep lands.

There is also serious erosion going on in the Catoctin Mountain area. This too, has been designated as a Class I Problem Area and Class 4 does not apply.

WASHINGTON COUNTY

(Problem Area I-B)

The area here designated as possessing erosion problems is found in the western half of Washington county, surrounding Fairview Mountain, and extending westward a short distance past Hancock. This is the fruit belt of Western Maryland. The land is quite rough but because of the requirements of good air drainage for fruit production the area has proven popular, as a fruit section and under normal times is a paying activity. Large areas of steep land have been cleared and unless properly handled, erode readily. In some sections, the top soil is already thin and will not stand a great deal of erosion before becoming useless. As steep as the land is, the area involved is about sixty percent cleared.

Most of the farms, both fruit and other types, give rather close attention to erosion control by the use of sod strips, pasturing the steeper lands and hay production. However, by estimate, approximately thirty-five percent of the farms could well pay more attention to erosion control. As the sizes of the farms are large, averaging 160 acres, such control could be handled without any change in size.

ESSENTIALLY CLASS 5 PROBLEM AREAS

Existing farming areas where twenty percent or more of the farms are, or soon will become decadent unless provided with better drainage necessitating public action.

PROBLEM AREA IV-A

(Pocomoke River Watershed)

The Problem:

The particular area under consideration comprises that portion of the Pocomoke River watershed lying above tide water and near Snow Hill and extending to the Maryland Delaware line. The area is distributed about equally between Wicomico and Worcester counties, occupying the whole of the fourteenth district and portions of districts numbers four and six of Wicomico county, and parts of districts numbers four, five, and nine of Worcester county. Its length, paralleling the Pocomoke, is approximately thirteen miles and at its widest point is about nine miles wide. In all there are about ninety-seven square miles or 62,000 acres included in the designated area.

As a result of a lack of adequate drainage, the soils typical of the area are classed as marginal and sub-marginal being mostly Portsmouth and Elkton types. Economic conditions within the area are very undesirable in most part.

It is reported that within the area, was at one time, some of the finest agricultural land in the section. However, by thoughtless neglect of early constructed drainage ditches and the natural drainage outlet for the area, the Pocomoke River and its tributaries, conditions have materially changed. The presence in the Pocomoke of numerous obstructions such as log dams formed by storm felled trees and carelessness accompanying logging operations, has so seriously restricted the natural rate of

flow of the stream, that it has become unduly and unnecessarily silted in and in many places has become choked with water vegetation. As a result, the river does not carry water to its potential capacity and the water table has risen considerably, so that it no longer fulfills its function of draining adequately the surrounding farm land. As the land is quite flat, the area affected reaches out for long distances on either side of the river. In times of heavy rains much crop loss results from flooding of large areas and the slow recession of the water. The impediment to highway transportation during such periods, is often serious with water covered highways and frequent washouts. Repeated overflowing of the river and a resulting deposit of silt on the banks has, in places, raised the level of the land adjacent to the river above that of the surrounding territory. This acts as a dam, preventing a natural drainage of the surrounding area into the Pocomoke. The result of this raising of the land, along the banks of the river is particularly noticeable in Worcester county, where a good farming section is found in a narrow belt along the river, made possible because the land is higher and better drained than land farther inland.

The problem is particularly serious in that the area is not by any means confined to any fixed boundaries. Year by year the condition encroaches farther into good territory to an alarming degree. It is a condition that should be remedied.

The result has been a gradual agricultural decadence within the area. It is here that considerable welfare relief is reported and where continued tax delinquency is probably heaviest in Wicomico county. Farm

property values are about one-third to one-half of that quoted for adjoining areas.

The area as a whole also has the largest amount of idle and fallow farm land in the section, averaging about fourteen percent of the entire land area and with one district having idle and fallow land equaling twenty percent of the area of the district. This is district number four of Wicomico county and is the one most remote from the Pocomoke. District number fourteen, which lies between the Pocomoke and district number four, has but eleven percent of its land surface in idle and fallow land. One would think that the reverse would be true. The probable explanation is that the encroachment of wet conditions on the fartherest removed area is relatively recent, while the wet condition of the district adjacent to the Pocomoke is of such long standing that land made idle by a rising water table has long since grown up in trees and is no longer classed as such.

The area is quite densely settled, individual districts or parts of districts having a rural population ranging from twenty-five to the square mile to as high as thirty to the square mile, as is the case in district number four.

In the same district the total population is fifty-six to the square mile, nearly as much again as the rural farm population. This factor of a large non-farm population dependent to a considerable degree upon the agriculture within the area must be taken into serious account in determining the form of adjustment appropriate. Unlike the greater part of the Eastern Shore, the negro population is very low, district number

fourteen, Wicomico county, has less than one percent. This unusually low negro population is perhaps indicative of a relatively recent decadence of the area as the negro was shunted to the poorer lands at an early date. This also perhaps substantiates the claim of past prosperity within the area.

The amount of the area in farms is also quite high, the various districts involved having from sixty-six to seventy-five percent of the total land area in farm ownership and there being, by estimate, about 518 farms included. Although the average size of farms in the area is around seventy acres, an average of only twenty-five acres is under cultivation and the amount in pasture is negligible. The area has been cleared of timber to a large extent; the cleared portion amounting to from sixty to seventy percent of the entire surface.

An inspection of the area disclosed housing conditions indicative of poverty and distress.

The physical characteristics of the soil limits the kinds of crops possible to a very narrow range. In that portion of the area having Portsmouth soils the crop is principally strawberries. This single crop, year after year with no rotation, tends to increase the severity of diseases and decreases the fertility of the soils for the crop involved. A more diversified agriculture is greatly needed.

Adjustment:

When considering the above factors it is evident that adjustment in some form is essential within the area. The choice seems to lie

between the eventual agricultural abandonment of the area and its designation as a public purchase unit, or else its revitalization by an early initiation of public projects designed to give the section adequate drainage.

In view of the large percentage of the area already in farms and its relatively high population density and other considerations, the revitalization of the area would seem to be the most logical and economic form of adjustment, providing such adjustment is feasible.

Certainly such would be preferred to the higher cost, social disturbances and many other complications accompanying the public purchase of such lands and the reestablishment of the population in other sections.

The reverse is true with regard to Problem Area I-L, previously discussed and just to the south of the one now under consideration. Although its being a continuation of the same area and with similar physical characteristics, the scattered population and small percentage of farm land does not warrant the high pro-rate cost of drainage even though such were feasible, of which there is some doubt.

Returning once more to the area at hand, it is found that when drained the soils present are productive. That portion of the area in Worcester county is largely Elkton silf loam which is suitable for the staple crops when adequately drained. In the early history of the area when attention was given to drainage, good yields were obtained. In past years the ditches have been allowed to fill in and yields are uncertain except on those farms where drainage has been kept up.

In brief the lasting and desirable benefits in part to be derived from drainage of the area are as follows:

1. The revitalization of agriculture within the area.

2. Improvement in economic status of proportionately large non-farm population.

3. The prevention of further encroachment of sub-marginal conditions into present good territory.

4. Flood control.

5. Health control. (Mosquito elimination and spread of disease by floods.)

6. The provision of additional farm land for cultivation.

7. Increased revenue for the county treasuries by creation of a tax paying class from present delinquents.

The instigation of a drainage project to adequately drain the area would also be of particular value at this time in providing immediate unemployment relief to considerable numbers.

Feasibility:

The drainage of the area seems feasible and not unduly expensive as far as the Maryland portion of it is concerned. Certainly the cost would be preferred to the cost of removing a large proportion of the population to other areas, which undoubtedly will at sometime have to be done unless corrective steps are soon taken. The portion of the area which extends into Delaware would doubtless be more difficult and expensive to remedy as the situation is markedly different. Large swamp areas prevail there which are difficult to drain and this is not seriously true of the Maryland portion. It is interesting to note apparently

more agitation for the clearing of the Pocomoke has had its source in Delaware than in Maryland. Delaware people have been particularly anxious to improve their section and considered it of such value that when Maryland failed to cooperate, at one time contemplated cutting a channel to the Atlantic as an outlet to the swamp. Without Maryland's help, the drainage of the Delaware area would probably be quite expensive. At the instigation of Delaware, the United States Department of Agriculture made a drainage survey of the situation with a view toward drainage of Cedar Swamp in Succex county, Delaware, by means of the Pocomoke River. The report indicated that "although the river is a possible outlet for part of Cedar Swamp, the most urgent need for improving the river would be to furnish a satisfactory means of draining the cultivated land in its watershed, which it now fails to do." As the bulk of the watershed is in Maryland, it is there that the improvement would be most applicable. Apparently other sources of drainage of the Cedar Swamp in Delaware would be necessary. The report indicated that there was sufficient fall for satisfactory drainage for the Pocomoke valley and that merely clearing the river channel of obstructions as an estimated cost of fifty cents per acre would be most helpful, while dredging to a suitable cross section, would be the most beneficial at a cost of from three dollars to five dollars per acre. As the area affected has enlarged considerably since the survey was made, the rate per acre would probably now be decidedly less.

Considerable demand has also been made by the Maryland people for the improvement of the river. The State Legislature, it is understood,

at one time appropriated $250,000 for the project. It was vetoed, however, by the governor.

Clearing of accumulated debris in the river bed alone is apparently quite effective. Some years ago $200.00 was raised among some of those interested and used in dynamiting a few obstructions beginning at a point about five miles below the state line. This resulted in lowering the water table thirteen inches with a general improvement of conditions. The improvement was felt even beyond the state line into Delaware. This example seems pretty good evidence of the improvement possible at relatively little expense.

As there has been serious neglect of the various drainage ditches, these would also have to be improved and perhaps additional supplementary ones constructed in order to achieve the highest benefit from drainage of the area.

The writer believes, and it is also the belief of others familiar with the situation that the area deserves and should have the earliest possible attention for the purpose of preserving and rehabilitating the farming industry within and that the contemplation of abandonment would be a great mistake, feeling that the patient could better be treated by a pill than submitted to a major operation. Copies of Drainage Reports of the United States Department of Agriculture, relative to the area are appended.

PROBLEM AREAS IV-B IV-C

(Somerset and Dorchester counties)

The areas embraced, consisting of parts of Dorchester and Somerset counties are essentially the same in regard to their draining problems and have for that reason been grouped together. It is estimated that from twenty-five to thirty percent of the farms within the areas are, or soon will become decadent, unless given more adequate drainage. Many of the farms are, it is realized, well cared for in this respect, but others could be greatly improved productively by being provided with facilities for better drainage.

The area is characterized by soils potentially as fertile as any in the state and suitable for a diversity of crops; and rank with the Class "A" soil groups when properly drained. Those portions which have been given adequate drainage have proven highly productive.

The reason for the unfavorable conditions of some of the farms seems to be due to the drainage policy pursued in the area. Although there is a state enabling act providing for the setting up of organized drainage districts, it has not been taken advantage of and a "pay as you go" system has been the vogue with construction of ditches and quality of maintenance dependent upon funds collected from time to time. There are numerous tax ditches built by funds derived from special assessments with work carried forward as money becomes available. A levy is made each year depending upon the amount of work which the manager of a

particular ditch wishes to do and the taxables are supposed to pay their assessments each year when called upon by the treasurer of the ditch. Practically all of these ditches have been more or less neglected the past few years as the taxables did not feel they had money to spare for work on them, and as a result the ditches fail to function because of inadequate maintenance. This of course results in an increasing lessening of productivity and a progressively greater inability to pay which produces a visicious circle that will be most difficult to get out of except through organized public action, and will undoubtedly result in a serious lowering of economic conditions unless such action is taken.

The policy of drainage as practiced has resulted in numerous ditches, but there has been no unification into an economic system, and there has been a lack of adequate maintenance of those ditches affected. Many of the farmers are forced to drain their land in a superficial fashion, since there are no main ditches to drain into. About all they are doing is draining off the surface water, when it is the lowering of the water table that is to be desired, but impossible without main ditches of lower elevations. The same is true for the existing tax ditches most of which are independent of each other and with no general canals to make them adequately effective.

Evidence of progressive decadence is seen where once fine homes have become delapidated and other poor housing conditions exist. Somerset county also has the largest number of farm properties with taxes outstanding for three years or over of any county in the state (337) which is about twenty

percent of the whole number of farms. The use of the state equalization fund is forty percent ranking next to Garrett county which makes the greatest use of such funds. Relief work in Somerset county has been heavy.

Adjustment:

What is needed to revitalize the area and prevent a possible progressive decadence is a drainage plan worked out for the county as a whole, in which the existing tax ditches would become a part of a county wide system having main large drains and canals. Such improvements will necessitate organized public action by bond issues and a thorough engineering survey. It has been expressed by those familiar with the situation in the two counties that the item of adequate drainage is the biggest factor of any to meet the needs of the people, for the land, if adequate drained is productive and will support as many families as any in the state, and has advantages of climate not claimed by other sections. Over capitalization of drainage districts has, it is realized, proven disastrous in many sections, but this in most cases is where new land was being opened up. Here we have a case where the land is already under cultivation which presents a different story. The drainage of the area would open up new land for settlement but at little or no added expense as it would be achieved as part of the rehabilitation program, for existing farms. It seems particularly essential to take early action in regard to improved drainage conditions so that the section will be better equipped to compete with out of state competition now coming from the south.

PROBLEM AREA IV-D

(Long Marsh Watershed)

The Problem:

A watershed area, oblong in shape, fourteen miles long and averaging five and one-half miles in width, which is adversely affected by gradual failure of drainage channels to function. The area covers 77½ square miles, or 49,000 acres; the greater portion of which, or 34,000 acres lies in Quenn Annes county and the remaining 15,500 acres being predominatly Sassafras, and the area at one time laid claim to being a most productive section. Neglect of natural and artificial drainage channels during the years has resulted in the raising of the water table and so restricted the run-off capacity, that crops have become most uncertain with the result that there has been considerable forced abandonment and many of the farms still in use are operated uneconomically. It is estimated that from twenty-five to thirty percent of the watershed is affected with possibly three hundred families involved. Here we find need for public relief, dispersed farm settlement, and a large percent of idle and fallow farm land. Farm values are now one-third to one-half of that of adjoining territory. As the drainage channels become more and more clogged, the situation becomes progressively worse with additional land being made unfit for agriculture year by year.

Adjustment:

The situation calls for one of two solutions, either the eventual abandonment of a large portion of the area for arable farming, or if possible, its rescue.

As a good proportion of the area is already in farms, has a relatively high farm population, is generally cleared of timber (only 10 to 15 percent in woodland), and has potentially fertile soil, it would seem most desirable and necessary to take early steps toward the rehabilitation of the section, both to reclaim lost land, and to protect from further encroachment, those areas still in good fertility. Certainly, it would present less in the way of complications and cost, than the eventual evacuation of the affected portions of the area. It would at the same time, provide sites for settlement of families removing from uneconomic land by making use of abandoned farms.

Feasibility:

A drainage survey made by the U. S. Department of Agriculture reports that the project is desirable and feasible as ample fall is present and at a cost which seems reasonable considering the acreage affected. In general, the necessary improvements would be:

1. The enlarging and deepening of the existing Long Marsh Drainage Ditch, constructed over one hundred years ago by slave labor and which has gradually become inadequate by failure to clean obstructions.

2. The ditching and clearing of the larger tributaries.

3. Installation of large tile to replace the numerous hand-made ditches.

It is estimated (1916 figures) that the approximate cost of excavation of the main ditch (about twelve miles in length) would be $48,000. The four main tributaries would cost in the neighborhood of $40,000. It is probable that three-fourths of the entire watershed would receive benefit and would be liable to assessment, making the cost per acre a

little over two dollars. In return would be secured increased acreage of land that could be cultivated, increased yield from land now cultivated but uncertain in crop production, due to being wet and occasionally flooded, and protection from future injury of present economic farms.

PROBLEM AREA IV-E

The Problem:

An area adjoining the Long Marsh tract just described but occupying a different watershed and presenting economic problems of a more serious nature, is another one of those cases where a choice has to be made between the eventual agricultural abandonment of a large portion of the area or, if possible, the revitalization of its agricultural industry, with accompanying improvement in the economic status of the farm population.

The area under consideration, borders the Maryland-Delaware line and occupies parts of district number one of Queen Annes county, and part of districts numbers one and two of Caroline county. Its areal extent is approximately fifty square miles or 32,000 acres.

Inadequate drainage is the main factor responsible for evidences of localized undesirable conditions within a general area noted for its high agricultural attainment. A reference to the various criterial maps appended, shows the undesirable conditions of the area standing out strongly against a background of a generally satisfactory situation. In district number one, Caroline county, which is representative of the area, the value of farm land and buildings is the lowest in the county. The same is true of farm land alone. In the area is also found the highest percentage of idle and fallow farm land (18 percent of the land surface in district number one, Caroline county). Other signs of a poor social and economic situation is the poor housing conditions at times in evidence, and the reported abandonment of farms.

In contrast to the low economic status is the high amount of land in farms and the dense settlement of the area. Again taking district number one Caroline county, which can serve in general as a sample for the entire area, we find that approximately ninety percent of the land is in farm land; seventy percent of which is cleared, and that the rural farm population is thirty-three to the square mile and the highest in the county. The total population is fifty to the square mile and twenty percent of the population is negro. It is estimated that within the area there are approximately 350 farms of which from thirty to forty percent are, or soon will become decadent unless given more adequate drainage. The remaining farms would at the same time benefit from a thorough drainage project.

In view of the existing high amount of area in farm ownership, the dense farm population and the high amount of cleared land, it would seem that the area at one time was thought highly of and was more productive than today. At the present time the predominating soils are classed as sub-marginal on account of the drainage problems. This undoubtedly has come about by a progressive failure of drainage channels to function, both man made and natural. Neglect in maintenance of the drainage outlets from the area which is of such common occurrence on the shore, is probably the main cause for this failure. When drained the soil types present are productive.

Adjustment:

Because of the large population, and intensity of use characterizing the section, revitalization and rehabilitation would seem the appropriate adjustment rather than suggesting the replacement of arable farming on

considerable number of farms by some other use. Unless adequate drainage is accomplished, however, the eventual agricultural abandonment of certain portions of the area seems inevitable.

Feasibility:

No survey has been found indicating the requirements for drainage of the area. It would in all probability require the clearing and deepening of existing ditches and the construction of new ones with a view to the formation of a unified system. Natural drainage channels would also have to be improved by dredging or clearing of obstructions.

The natural drainage of the area on which any drainage project would be based is in two directions, with the divide being approximately the county line separating Caroline and Queen Annes counties. That portion of the area in Queen Annes county is in the watershed of Unicorn Branch which flows to the northwest into the Chester River. The Caroline county portion drains, in most part, by way of the Choptank River. As this river flows out of Maryland and into Delaware for a short distance, then back again, some complications would perhaps arise in improving this stream, for a more adequate drainage of the area. The presence of a large mill pond near Henderson and on the Choptank, with the dam just over the line in Delaware, but with the largest portion of the resulting lake in Maryland, would also complicate things somewhat. It is possible, however, that this mill pond which is of considerable extent has resulted in raising the water table of the surrounding area several feet, served as an obstruction in the river and also prevented the fall necessary for good drainage. The facts are not known but this situation may have had

some effect in the increased drainage difficulties of the area.

A thorough engineering survey should be made to determine just what is involved in giving suitable drainage to the area. On account of the large percentage of the area in farm land and the high population, considerable money could be expended and yet the cost per improved acre and to individuals would not be excessive.

CLASS 6-B PROBLEM AREA

(Areas of forest land where public management will be required for sustained forest production, recreation or wild life refuges.)

CLASS 6 B PROBLEM AREAS

(Areas of forest land where public management will be required for sustained forest production, recreation or wild life refuges.)

As the State Department of Forestry has made a full report indicating areas which should be under either public or private management, it has not been covered fully in this report. Only certain small areas of forest land not in farms which for one reason or another should eventually be in public ownership, but which were not so indicated in the Forest Service report, have been shown on the Problem Area Map. These areas are indicated on the map as 6b and are usually in connection with some other problem such as 2 or 10 a, the forest land not in farms being necessary as a part of desirable public holdings for recreation, preservation of sources of future water supplies etc. The largest of such areas occurs in the Catoctin-Blue Ridge Mountain area and was discussed under Problem Area I-C. The remainder will be taken up under Problem Areas number VI.

CLASS 8 PROBLEM AREAS

Areas where settlement is occurring or is likely to occur, but should be discouraged at least until its desirability has been given further study.

CLASS 8-A AND 8-B PROBLEM AREAS

8 a. (Areas where settlement tends to take place, or is likely to take place on land not in farms, much of which is unsuited to arable farming.)

PROBLEM AREA V-A

An area predominatly of a low fertility soil type about twenty miles in length and averaging from two and one-half to three miles in width. It lies between Washington and Baltimore. At its start, to the south the area straddles the Montgomery-Prince George's boundary line to the Howard county line. From that point it lies wholly within Howard county, on either side of the Washington-Baltimore Boulevard and extending to the Howard-Anne Arundel line where it suddenly stops. The undesirable soil predominating in the area is the Leonardtown type which rates lower, particularly in Howard county, than the same soils in Southern Maryland.

Becuase of the proximity of the area to Washington and Baltimore and the relative cheapness compared to adjoining good soil areas, there is particularly under the present economic situation, the likelihood of settlement within the area on the part of the uninformed. To some degree this apparently is going on either by the purchase of small acreages of speculative or abandoned land, or by the division of existing farms. The area contains considerable numbers of farms but the economic conditions within the area do not warrant a Class I designation. The soil, although naturally of very low grade, can by intelligent and e xpensive handling, be made fairly productive. The long

established farms under normal times can probably be operated on a profit. However, the below average farmer, and city raised people seeking to supplement their incomes undertake small scale farming when city employment fails, would hardly have the ability or knowledge to make such a venture pay on land of this type. The same condition exists in the adjoining area (L-D) where the soils are of a still lower grade but where people who should know better have been known to purchase land for farming.

PROBLEM AREA V-B

This area, starting at the northeast corner of the city limits of Baltimore is a continuation of the same streak of Leonardtown soils as described above under Problem Area V-A. The same observations pertain to this area as well particularly in the upper portion not as thickly settled as that near Baltimore, where residential development is extending into the area and truck farms, under cultivation for a long time, have improved the soil sufficiently over that period to have become adequately productive for arable farming. There is danger for the novice in attempting to farm some of these soil areas at a distance from Baltimore. The area is relatively small, being from ten to twelve miles in length, and averaging about four miles in width. There are present interspersed areas of good soil and for this reason the prospective settler is likely to be misled by judging the entire area by results obtained on the better soil types.

CLASS 8 B PROBLEM

8 b. (Areas within which there is or is likely to be a tendency toward closer settlement by division of existing farms, which should be discouraged.)

Areas where the subdivision of farms is occurring, which is thought to be undesirable (except subdivision for residential use, which is greatly overdone) are not discernible. In areas where farm division is going forward, which is principally in a radius around the larger towns and close to markets, the result has been found desirable from an economic standpoint, as expressed by those familiar with the situation. These areas, located in good farming sections, are providing from such farms, adequate family livings. The operators are sending their children to school and taxes are paid regularly. In most cases such division is occurring in areas where large farms are characteristic so that the division still leaves adequate acreage. It is thought highly desirable to encourage subdivision of farms in such areas. In areas where the resulting farms are small, the type of farming engaged in is suitable for small acreages or the farmers work on a cooperative basis as far as the use of farm machinery is concerned. They borrow among themselves, the necessary machinery which for an individual farmer, would necessitate a prohibitive overhead.

Surveys conducted by the University of Maryland, Department of Agricultural Economics and reported in their bulletin "Small Scale and Part-time Farming in Maryland" indicate that the small scale farm

when on productive soil close to markets, and efficiently administered can be the source of adequate livings.

CLASS 9 PROBLEM AREAS

Watershed areas where conditions of land-use tend to cause irregular stream flow, silting of reservoirs, or other injury to water supplies, and therefore, where some public control of land-use is necessary.

CLASS 9 PROBLEM

It is felt that the problem in Maryland is not of a serious enough nature to warrant public control of watersheds and can be taken care of by individual action.

A sanitary engineer of the State Department of Health, who was closely associated with the recent water resources report of the Maryland Water Resources Commission, stated that in no way it could be looked, could it be said the serious silting of reservoirs was a Maryland Problem. The same opinion was expressed by the Department of Agricultural Engineering, University of Maryland.

As a further check, questionnaires were sent to superintendents and engineers of the major public and industrial water supply reservoirs located on the various streams. Replies substanciated these contentions. The largest public reservoir of the State, that at Lock Raven and supplying the City of Baltimore, reported no cause for worry for several hundred years even though the calculations of the engineer in charge as to the rate of silting, were much too low. The Susquehanna Power Company with a large reservoir at Conowingo, reported no silting of any consequences from Maryland sources. There is reported considerable irregularity of stream flow, but such a minor portion of the Susquehanna is in Maryland that no local control would in any way be effective.

The Public Water Supply for Cumberland is in Pennsylvania, so does not apply to the use of Maryland land.

Frederick has its water supply in the Catoctin Mountain area and the watershed is amply protected by forest growth.

The large power reservoir in Garrett County, known as Deep Creek, has no silting problem according to officials of the organization operating the power plant.

Although the records show considerable variation in stream flow and some silting in the various streams, it is not as pronounced as in other sections. With the exception of the Potomac River, only partially in Maryland, the streams are small and the seriousness of overflowing is correspondingly low. This variation in flow and silting cannot be attributed to improper farm practices as these streams pass through areas where the farmland, to a large extent, is in pasture and noted for excellent farm management practices with the farm operators particularly conscious of the necessity of erosion control and who, in general, follow those practices which are designed to reduce erosion to a minimum. Some erosion and rapid run-off is bound to occur in any area that is farmed. Some adjustment would be desirable, but it would seem that the control, as far as agriculture is concerned, can best be handled by individual actions, stimulated by education and demonstrations rather than by public control of watershed areas. Terracing is not generally practiced in Maryland, but this feature would probably be helpful in reducing rapid run-off as well as erosion.

Among the primary causes for occasional flooding of some of the streams, which occurs only as a result of unusual rainfall, is the presence of various obstructions, such as logs, numerous bridges with inadequate clearances and the small size of the stream channels which are inadequate to care for unusual run-off. The obstructions tend to back up the water and at the same time, reduce the velocity resulting in sediment deposites and the raising of the level of the stream bed. Such silting would gradually occur under the most optimum conditions of land use. (The Mississippi Delta was present before agriculture was practiced on the Mississippi watershed). The removal of the various obstructions would do much to reduce flooding as the increased velocity of the water would tend to scour the stream bed to its normal depth. Much of the

flooding occurs after streams have passed the fall line, the slight grade tending to impound the water coming rapidly from above.

The Western Branch of the Anacostia River is one of the worst offenders in regard to flooding and silting, yet it traverses an area largely woodland and pastures. The flooding occurs below the fall line agricated by bridge obstructions and also the effect of incoming tide which is felt as far as Bladensburg where flooding is most serious. The wide flat plain on either side of the stream below the fall line would seem to be the result of silt deposites from centuries of overflowing and long before agriculture appeared, but is a natural phenomina and not to be remedied materially by any change in the use of the land. As the Park System of the Metropolitan Area contemplates the Northwest Branch as one of its units, some beneficial results would be possible by appropriate use of the land within the park area. However, the adjustment seems to be an engineering problem, probably by the raising of the level of bridges and roadways in the areas affected and also the commercial and residential land within the danger zone if it is thought essential to retain such properties.

The Monacacy River is another stream subject at times to flooding. This apparently has come about, in part, by the presence of numerous and in many cases inactive, small grist mill dams of but 3 or 4 feet in height which have served to raise the level of the stream, retarded the normal rate of flow and resulted in silt deposits and occasional floodings. The removal of these dams would be most helpful. It is reported that much of the silt is of a soil type found in Pennsylvania.

The Potomac River, serving as the boundary between Maryland and the States of Virginia and West Virginia, suffers at times from irregular stream flow. This is more or less of a regional type of problem. It has been noticed that the Shenandoah River flowing through Virginia and emptying into the Potomac at Harpers Ferry usually carries considerably more silt than that portion of the Potomac above the intersection of the two rivers. The program of retiring uneconomic farms from the mountainous sections of Maryland and the restocking of such farms to trees, as discussed under Problem 1 - A undoubtedly would prove beneficial in regulating stream flow in the Potomac, however, as the area already is to a large extent wooded, other corrective measures would obviously be necessary.

The construction of impounding reservoirs as expressed by the recent report of the Maryland Water Resources Commission would, it is believed, be of major importance in regulating stream flow in the streams requiring it. The public protection by purchase or zoning of the immediate valleys of the major streams in order to assure the continued existence of tree growth already there, would be most desirable both from the viewpoint of erosion and stream flow control and the scenic recreational value of such areas, which should be preserved. In view of the fact that many of these streams will necessarily be the sources of future public water supplies, it seems essential that the protection of trees growing along these streams be safeguarded as soon as possible. This provision is recognized under Problem Areas No. 10-A.

CLASS 10 a. PROBLEM AREAS

Areas which should be in public ownership and where it is proposed to withdraw only a portion of individual farms or only a small number of entire farms so as to establish public parkways along streams, or preserve small areas of scenic or recreational value and to protect the sources of future public water supplies. Such lands, generally would be rough, wooded and undesirable for farming, but present no social or agricultural problem of sufficient magnitude to become a Class 1 problem. This classification is distinct from Class 2 which specifies areas of desirable farm land which should be withdrawn from agriculture because of high recreational value.

CLASS 10-A PROBLEM AREAS

Maryland has fallen far behind some of the other states in the attention which has been given to the establishment of publicly administered outdoor recreational areas. Where other states have established or made provisions for the future establishment, of definite state parks and state park systems, Maryland with all her advantages of mountain scenery, climate, and miles of water front, has but one state park which although important historically, is relatively insignificant in extent. This is Fort Frederick, Washington County.

Areas within the state having high value for public park development or other public use, should be protected for the common good against possible injury by private enterprise, until such a time as an intensive public development of such areas seems desirable. In general the larger state park units may be derived from the Class I Areas suggested for public purchase because of uneconomic agriculture. However, an integral and important part of a definite state park system, in addition to these large areas, are various small units of high scenic and recreational value and the parkways and pleasure drives which serve as connecting links between the large and small units and which supply the circulation necessary for the establishment of a system. These parkways should have scenic and recreational value, in addition to their function as areas of transportation.

Maryland is fortunate in possessing many areas having these necessary attributes, and by proper selection and arrangement, a state

park system may be secured having high social, economic, and aesthetic value.

Following are listed some of these areas which appear to have value as discussed above. Many are the probable sources of future public water supplies and should be publicly protected for that reason alone, if for nothing else. The areas as listed involve only land undesirable for agriculture. Similar areas on good land are described under Class 2. The adjustment should consist in eventual public ownership but meanwhile zoning against abuse or destruction of those factors giving such areas public value.

Note: The areas as shown are at times necessarily exaggerated in scale. Particularly the Parkway Areas.

PROBLEM AREA VI-A

(Monocacy River - Sugar Loaf Mountain)

This is the Sugar Loaf Mountain and Monocacy River Area having extremely high recreational and scenic value. It is the nearest mountain section to the city of Washington; being only about thirty miles distant and just over the Montgomery county line in Frederick county. In areal extent the mountain is relatively small, although rising to considerable height and a landmark for miles around. This rounded mountain is the abrupt terminus of a ridge of lower hills extending southward from Frederick. The mountain itself does not now present a land-use problem as it is understood to be under recreational development as a private, non-commercial enterprise. Surrounding the base of the mountain is a large densely forested area of considerable extent.

The Monocacy River valley, framed on either side by rugged, wooded ridges, leads from Sugar Loaf Mountain direct to Frederick, and would form the basis of a most desirable park and parkway connecting Frederick with Sugarloaf Mountain, passing on the way the Monocacy Battlefield Park, suggested under Problem Area II-A, and from thence to Washington along a desirable Potomac River Parkway which also would pass, en route, the Great Falls of the Potomac. This same parkway would tie in with other parkways leading to other points of interest in the state.

Adjustment:

The combined areas should eventually be developed into a publicly administered park and parkway as a unit of a definite state park system. This would include the forested area not in farms surrounding Sugarloaf Mountain and designated as 6b on the map, and which should probably be administered as a combined state forest and recreational area. Sugarloaf Mountain proper is now in satisfactory use but should eventually be in public ownership. No farms would be involved.

A relatively narrow strip of land necessary to be acquired along either side of the Monocacy would involve only parts of farms, and these the rough and undesirable portions. Although some of the soils in the area are given a low rating, no social problems seem to be involved.

PROBLEM AREA VI-B

(Patapsco River)

A potential parkway and recreational area along the Patapsco River is desirable. A field inspection of portions of this area revealed most

remarkable scenic and recreational values. Steep, rocky, and heavily wooded gorges, a winding stream and proximity to Baltimore city are some of its features. An existing state forest at Relay already occupies a small part of the area. Picturesque mills, and colonial and historic towns are along this water course, adding to its value as a pleasure drive. It would serve as an extension of the parkway out of Washington discussed under Problem Area I-D and, to the north would lead to other connecting parkways and areas of high recreational value described in following Problem Areas. The river forms the boundary between Howard, and Carroll counties on the west and Baltimore county on the east. A parkway following this river would lead eventually to Westminister, as it probably should do. However, the parkway could be allowed to divide at a point where the river turns westward and, on existing roads, enter the Prettyboy Lake and Dam Area in the northwest corner of Baltimore county, an area of high scenic and recreational value and already under public ownership. (Municipal)

The soil type along the Patapsco, although being of high potential fertility, is rough, rocky and unsuited to agriculture. The area presents no social problems and involves in the main only portions of farms or woodland not in farms. It should eventually be in public ownership but meanwhile zoned not only to protect its recreational value, but its value as a source of future water supply which would be injured by any loss of tree growth now present.

PROBLEM AREA VI-C

An area along Gunpowder Fall, Baltimore county which is suggested as a parkway connecting the Prettyboy Dam Area with Baltimore, passing through Loch Raven on the way and also connecting with the Baltimore-Philadelphia Road where that road crosses Gunpowder Fall. The two publicly owned properties, Loch Raven and the Prettyboy Dam Area, both have considerable interest and beauty with heavy woodland and water features, and the Gunpowder Falls presents scenic attractions itself. With a public development of this parkway, a scenic tour would be possible, leaving Baltimore by way of the Patapsoc and returning down the Gunpowder. The protection to the water shed supplying the city water reservoir at Loch Raven, which public ownership of the Gunpowder valley would provide, would be most welcome. There are fourteen miles of the river separating Loch Raven from Prettyboy and uncontrolled by Baltimore City.

PROBLEM AREA VI-D

The area located in the upper portion of Harford county represents a combination of potential small park units and connecting parkways. Of particular interest is the area known as "The Rocks" having a condition of wild ruggedness of a type greatly appreciated by many recreationists. From out of the Rocks area flows Deer Creek also of fine beauty and paralleled by rugged topography. The area is wooded heavily which fact has been recognized by the Forestry Department report and a 6-b notation has therefore not been made in this report. This area

would provide an excellent addition to a state forest park system, being closely connected with the Prettyboy Dam Area previously discussed while the development of Deer Creek would provide a parkway leading direct to the Susquehanna River and at a point near the Conowingo Dam over which the parkway drive could cross. From there, and on existing roads, it could continue to the "Elk Neck" Area suggested for possible recreation under Problem Area I-P. The area also would tie in with Area I-Q, just north of Deer Creek, which also has scenic and recreational value along with the probability of a few uneconomic farms. This area has previously been discussed under the Class I Problems. The area as a whole is rough and unsuited to agriculture, with the exception of a short stretch along the eastern portion of Deer Creek. As the requirements of a parkway involves only a narrow width these farms would only have to relinquish the portions fronting on the creek.

Included as part of the numbered area are the steep wooded hillsides and bluffs along the Susquehanna River. The Susquehanna, one of the largest and most picturesque rivers entering the state, has rare scenic and recreational value. The lake formed by the Conowingo Dam is most noteworthy. The wooded hillsides along the lake are undoubtedly amply protected by the company responsible for the dam. Below the dam however, the natural beauty and protecting tree growth on the hillsides should be protected either by zoning or public purchase. Certain islands in the river and below the dam, would be of particular value in

the recreational development of the area.

The adjustment in general should consist in the eventual development of the larger areas as state forest and recreational units and the narrower portions of poor land along the streams as parkways, the area as a whole to be zoned until such a time as this program is practical. This is particularly essential in that Deer Creek may possibly serve as the source of public water supply in the future. The parkways are shown with necessarily exaggerated widths in many instances.

PROBLEM AREA VI-E

This is the Great Falls of the Potomac Area, close to Washington and of rare beauty and recreational value. It is so well known that it needs no additional description. It should, by all means, be under public administration as an outstanding feature of a state park system. Its location fits in perfectly as one of a chain of features along suggested parkway discussed below. The area should be given early public protection. The Virginia side of the Falls has been largely ruined by private enterprise in the development of a carnival-like atmosphere on the very brink of the cataract. From the Maryland side it is unfortunately necessary for visitors to pay admission for a view of the falls. Under private ownership such an area is always in danger of injury. The area is heavily wooded, steep, and at times rocky, and unsuited to arable farming. A 6b. classification has also been noted.

PROBLEM AREA VI-F

This is a suggested Potomac River scenic parkway along the old and abandoned Chesapeake and Ohio Canal, and following in its entire length, the Potomac River. By the use, with modifications, of the towpath, a roadway on practically level grades would be possible from Washington to Cumberland, eliminating the difficult mountain travelling now necessary between these two points. Such a parkway would be a master connecting link of a state park system, passing through many featured park units and providing direct connection with secondary parkways leading to various park areas. In its course from Washington such a parkway would pass through the Great Falls area, touch the Sugarloaf Mountain area, and connect with the suggested Monocacy parkway, pass the lower end of the Blue Ridge and Catoctin Mountain area (suggested for a publicly administered forest and recreational unit), pass through Harpers Ferry, of unusual beauty and from there skirt the existing Antietam Battlefield Park. A short distance farther on the parkway would pass the existing state park at Fort Frederick and from there enter the rough, mountainous region of Western Maryland where outstanding recreational park areas can be made available. If such is over realized this parkway would also connect with the Skyline Drive, now under construction in Virginia, providing this drive is extended over the Blue Ridge into Maryland.

As the value of such a development, both from an economic and recreational standpoint, is great, suitable steps should be taken to insure its realization whem the time seems appropriate.

PROBLEM AREA VI-G

The area here indicated is a heavily wooded mountain, in the southeast corner of Washington county, and known as Elk Ridge. It stands alone, and off to the side of the Blue Ridge Mountain Range. At its lower end is Harpers Ferry of great scenic and historic interest. Antietam Battlefield parallels the western side of the mountain and to the northwest. A combined park and state forest development in connection with the existing Antietam Battlefield Park seems possible and desirable. The scenic beauty of Harpers Ferry should by all means be protected. The existing large scale advertising signs now painted on the rock ledges do not add to the pleasure of those going to Harpers Ferry for a few days of recreation. This is primarily a 6 b. area but some portions of farms would be involved.

PROBLEM AREA VI-H

The Susquehanna Area previously described under VI-H.

PROBLEM AREA VI-I

The two areas indicated are located in Calvert county and include the well-known bluffs rising from the shore of Chesapeake Bay. The areas have rare beauty and recreational and geological value. To some extent they are in danger of being spoiled by private enterprise because no zoning restrictions are guiding such development. Much of the area is wooded, some of the land is steep as streams cut through the bluffs to the Bay. This steep land is unsuited to agriculture and should be in forest cover. Some of the area on top of the bluffs is reasonably good

farm land but with considerable of it held speculatively. The Washington Boy Scout Camp is already located in the upper area and about two miles north of Plum Point. Some of the rougher areas could well be developed as publicly administered recreational units, the flatter areas utilized for summer residential purposes but zoned against injurious developments.

PROBLEM AREA VI-J

This area presents the opportunity of securing a park and parkway of unusual beauty and value and one where the earliest possible control by public administration should be instituted before its present value is diminished or ruined by private enterprise. The area lies along the Defense Highway, connecting Washington with Annapolis. Starting from Priest's Bridge and running toward Annapolis for eight or ten miles, is one of the most pleasurable and interesting drives anywhere around. The road passes between two steep hillsides covered with forest growth and miles of Laurel, dogwood, and other colorful plants which give to the area great beauty in all seasons. Occasionally the winding road, for variety, opens out into expanses of water, framed by high hills and presenting most pleasing vistas. All that is needed for development as a parkway is to secure by public purchase a relatively narrow area on either side of the present road to protect its many features of topography, vegetation and water. The roadway is already built.

Until now the area has been remarkably free from the blemishes

characteristic of main thoroughfares. There were no gas stations, hot-dog stands, nor bill boards, and only one or two houses visible from the roadway. During the past few months, however, activity has been noticed which does not look favorable to the future welfare of the area. Logging operations are seen and several structures are in process of construction. It looks as though civilization were moving in.

The historic interest connected with Annapolis, which is also the State Capitol, and the fact that the highway is the direct link between that town and Washington, is of added significance in the desirability for the preservation of the area as a parkway. Considerable money was expended in the creation of a memorial parkway along the Potomac River from Washington to Mount Vernon (George Washington is also closely associated with the history of Annapolis.) Here we have an equally fine parkway already built and the only expense for its continuance as such is the procurement of approximately 1,000 acres of land along the present roadway. The land is undesirable for any form of farming and in many instances too steep for residential purposes. An eighth of a mile average on either side of the road would be all that is necessary. This would involve, in most instances, but parts of farms and some wooded land not in farms.

The necessity of early attention to the protection of this ready-made park and parkway cannot be too strongly stressed. Purchase would be desirable but zoning against improper use should at least be made until such a time as purchase is feasible.

PROBLEM AREA VI-K

The area as indicated is applicable to all the major water fronts. The greater portion of the water fronts along the bay, ocean, and Potomac River having natural beauty and high potential recreational and inspirational value, should be protected for the public good for all time. Too many of these areas are being administered by private enterprise, in a manner injurious to the area and at a distinct loss to the public.

Adjustment:

a. Thinking in terms of long-time planning of one hundred years and more. These properties should, in general, be under public ownership. This may be accomplished if given sufficient time by purchase, gift and reversion. Agriculture need not necessarily be retired.

b. Meanwhile protection should be given to these areas in the form of public supervision in the form of zoning.

CLASS 10-B PROBLEM AREAS

Farming Areas, not of an erosive type, which have been too severely cleared of woodland and within which a policy of establishing larger farm woodlots should be instigated for better water conservation, climatic value, windbreaks, the production of necessary fuel and as a source of supplementary income.

CLASS 10-B PROBLEM AREAS

The Problem:

This situation accompanies Problem Areas III-B previously discussed and is characteristic of district number one of Cecil county, districts numbers one, two, three, and six of Kent county; and districts numbers four and seven of Queen Annes county. It is thought that a reasonably large area such as here presented should, for the continued economic welfare of the land itself as well as the people in it, be at least twenty-five percent wooded in a mosaic like pattern. Kent county as a whole is but nineteen percent wooded; these areas being concentrated largely along a narrow belt of broken land adjacent to the water fronts. The remainder of the area is quite level and practically cleared of trees. The same conditions are true for the included districts of the other counties.

Adjustment:

As the areas involved are about ninety percent in farm land the planting to trees of non-farm properties is out of the question. Adequate farm woodlets are lacking in most instances. Something perhaps could be accomplished by educating the farmer as to the value of larger farm wood lots. However, this is not always any too effective. One means of such accomplishment would be the planting to trees as farm woodlots the excess acreage on certain of the farms too large for economic operation, but not sufficiently large to break up into additional farms. Although perhaps a sufficient number of farmers would not be inclined to plant out trees of their own volition, many would be willing to have it done by some public agency.

PART IV

Estimated Data on Farms

That Should be Eliminated

ESTIMATED DATA ON FARMS THAT SHOULD BE ELIMINATED

Summary by Counties — May 20, 1935

Counties	Acreage in Problem Area: Total	Class 1	Class 2	Class 10 a	Number Farms in Problem Area	Should be Removed: Number of Farms	Farm Acreage	Value of Real Estate	Acreage in Crops	Acreage in Pasture
Allegany	156,900	156,900	-	-	594	374	55,460	$ 539,710	9,133	7,821
Anne Arundel	31,500	28,500	1,000	2,000	133	83	6,546	342,050	2,563	759
Baltimore	11,460	-	800	10,660	66	66	5,327	415,305	2,499	1,196
Calvert	20,500	14,000	-	6,500	115	65	6,995	168,995	1,130	1,233
Caroline	5,600	5,500	100	-	51	21	1,593	38,693	671	174
Carroll	4,200	-	-	4,200	20	20	1,373	63,375	744	189
Cecil	25,140	22,200	300	2,640	94	50	5,905	254,516	1,695	824
Charles	24,575	21,000	3,575	-	119	84	9,936	197,864	1,622	1,166
Dorchester	86,500	83,500	3,000	-	177	147	19,683	523,390	7,301	2,007
Frederick	80,160	66,960	100	13,100	407	271	24,746	398,665	11,990	4,146
Garrett	230,100	230,100	-	-	771	570	72,765	1,040,825	16,865	16,201
Harford	19,680	13,600	-	6,080	81	56	5,460	157,250	1,952	1,357
Howard	960	-	-	960	7	7	823	32,920	361	178
Montgomery	2,160	-	-	2,160	2	2	350	26,250	88	115
Prince Georges	21,340	21,340	-	-	115	79	6,366	166,040	1,230	704
St. Marys	9,000	9,000	-	-	40	25	2,675	66,875	900	458
Somerset	8,000	8,000	-	-	55	55	4,630	120,600	1,450	245
Washington	68,170	65,050	-	3,120	350	215	20,641	278,815	9,639	3,061
Wicomico	27,300	27,200	100	-	196	196	13,521	346,367	4,776	412
Worcester	55,826	52,480	3,346	-	200	166	17,096	287,740	8,994	743
TOTAL	889,071	825,330	12,321	54,420	3,593	2,552	281,891	$ 5,466,245	85,603	42,989

Total Farm Acreage for Maryland (1930 Census) -- 4,374,398

Total Value Farm Land and Buildings (1934 Estimate) - $270,679,328.

Mark M. Shoemaker,
Land Planning Consultant for Maryland
National Resources Board.

ESTIMATED DATA ON FARMS [illegible]

TABLE [illegible]

Districts or portions of districts in Problem Area	Total Acreage in Problem Area	Number farms in Problem Area	SOLD [illegible]					
			Number of Farms	Farm Acreage	Price per Acre	Value of Real Estate	Acreage in Crops	Acreage in Pasture
ALLEGANY COUNTY								
1.	12,300	75	40	4,280	10	42,800	720	871
2.	28,000	75	60	14,460	10	144,600	1740	1377
3.	25,000	85	50	8,350	10	83,500	1250	1792
6.	3,200	2	2	190	10	1,900	80	20
7.	9,600	15	15	2,550	10	25,500	540	546
9.	1,900	20	10	0,790	10	07,000	1 0	164
13.	2,000	5	5	695	10	6,950	195	126
15.	4,480	18	10	2,310	5	11,550	350	232
16.	18,000	125	75	8,375	10	80,750	1125	215
17.	4,500	15	10	1,600	8	12,800	240	283
18.	2,560	3	3	850	10	8,500	150	155
20.	8,960	21	10	1,150	10	11,500	220	64
21.	7,000	40	20	3,301	10	33,010	406	410
22.	3,200	20	10	1,180	10	11,800	230	382
24.	3,200	10	10	1,486	10	14,860	310	207
25.	2,240	4	4	950	10	9,500	281	76
27.	1,700	5	5	513	10	5,130	106	117
29.	10,240	41	20	1,600	10	16,000	240	197
31.	5,120	5	5	580	10	5,800	110	53
33.	3,200	10	10	2,300	10	23,000	320	144
Total.....	156,900	594	374	55,480		539,710	9133	7321
ANNE ARUNDEL COUNTY								
2.*	2,000	3	3	336	50	16,800	195	116
3.	1,000	20	10	590	75	44,250	170	47
4.	24,000	100	60	4,740	50	237,000	2040	544
5.	4,500	10	10	880	50	44,000	250	52
Total.....	31,500	133	83	6,546		342,050	2655	759

* Areas taken out due--primarily to high potential value for public use.

Page 2. - - Estimated Data on Farms that Should Be Eliminated.

Districts or portions of districts in Problem Area	Total Acreage in Problem Area	Number Farms in Problem Area	SHOULD BE REMOVED					
			Number of Farms	Farm Acreage	Price Per Acre	Value of Real Estate	Acreage In Crops	Acreage In Pasture
BALTIMORE COUNTY								
1 *	1,000	5	5	285 @	$25.	$21,375	151	36
2 *	1,920	3	3	189 @	75.	14,175	87	24
4 *	640	5	5	430 @	75.	32,250	175	71
7 *	600	5	5	1,460 @	42.	19,320	200	381
8 *	2,560	15	15	1,875 @	75.	140,625	915	343
9 *	640	5	5	260 @	75.	19,500	100	37
10 *	1,920	10	10	930 @	72.	66,960	420	222
11 *	640	5	5	3,290 @	75.	21,750	130	43
13 *	100	1	1	28 @	75.	2,100	16	3
14 *	640	5	5	160 @	75.	12,000	60	11
15	800	7	7	420 @	125.	52,500	245	25
Total ...	11,460	66	66	5,327		$415,305	2,499	1,196
CALVERT COUNTY								
1 *	3,000	15	9	1,200 @	$ 25.	$ 30,000	160	210
1	7,000	35	21	2,410 @	25.	60,250	350	504
2 *	1,500	15	5	445 @	25.	11,125	80	14
3 *	2,000	13	6	600 @	23.	13,800	100	105
3	7,000	37	24	2,340 @	23.	53,820	440	400
Total ...	20,500	115	65	6,995		$168,995	1,130	1,233
CAROLINE COUNTY								
3	2,000	20	10	770 @	$25.	$ 19,250	320	78
5	3,500	30	10	740 @	25.	17,700	320	65
8	100	1	1	83 @	21.	1,743	31	11
Total ...	5,600	51	21	1,593		$ 38,693	671	174

* - Areas taken out due primarily to high potential value for public use.

Page 3. - - Estimated Data on Farms that Should be Eliminated.

Districts or portions of districts in Problem Area	Total Acreage in Problem Area	Number Farms in Problem Area	SHOULD BE REMOVED					
			Number of Farms	Farm Acreage	Price Per Acre	Value of Real Estate	Acreage in Crops	Acreage in Pasture
CARROLL COUNTY								
4 *	2,000	10	10	640 @	$43.	$27,520	310	70
5 *	1,200	5	5	355 @	43.	19,565	200	75
7 *	600	3	3	234 @	45.	10,530	144	27
8 *	400	2	2	144 @	40.	5,760	90	17
Total ...	4,200	20	20	1,373		$63,375	744	189
CECIL COUNTY								
3	200	2	1	88 @	$45.	$ 3,960	33	19
5	22,000	80	40	4,480 @	44.	197,120	1,240	616
5 *	300	2	2	224 @	44.	9,856	102	51
7 *	2,000	8	5	925 @	40.	37,000	260	96
8 *	640	2	2	188 @	35.	6,580	60	42
Total ...	25,140	94	50	5,905		$254,516	1,695	824
CHARLES COUNTY								
1	200	1	1	142 @	$20.	$ 2,840	25	25
3	11,000	50	30	3,480 @	13.	45,240	450	332
6	3,375	8	8	904 @	46.	41,584	192	137
8	4,000	25	20	2,260 @	20.	45,200	480	369
9	6,000	35	25	3,150 @	20.	63,000	475	313
Total ...	24,575	119	84	9,936		$197,864	1,622	1,166
DORCHESTER COUNTY								
3	4,500	20	15	1,350 @	$39.	$ 52,650	630	121
3 *	3,000	12	12	1,788 @	20.	35,760	636	254
4	17,000	25	15	2,115 @	30.	63,450	690	178
5	20,000	25	20	2,320 @	17.	59,440	600	196
9	6,000	20	20	2,980 @	23.	68,540	1,420	234
11	16,000	20	20	2,760 @	19.	152,440	1,740	357
13	8,000	20	15	1,860 @	26.	48,360	765	179
16	5,000	10	10	1,510 @	25.	37,750	580	117
17	7,000	25	20	3,000 @	37.	105,000	1,240	371
Total ...	86,500	177	147	19,683		$523,390	7,301	2,007

* .. Areas taken out due primarily to high potential value for public use.

Page 4.-- Estimated Data on Farms that should be Eliminated

Districts or portions of districts in Problem Area	Total Acreage in Problem Area	Number farms in Problem Area	SHOULD BE REMOVED					
			Number of Farms	Farm Acreage	Price Per Acre	Values of Real Estate	Acreage in Crops	Acreage in Pasture
FREDERICK COUNTY								
1.*	2,560	10	5	865 @	$ 20	$17,300	555	197
2.*	320	2	1	122 @	30	3,660	90	23
3.	1,280	4	4	330 @	20	7,600	244	83
5.	6,400	20	20	2,160 @	10	21,600	1260	387
6.	9,600	75	40	3,160 @	10	31,600	1320	394
7.*	8,320	30	15	1,980 @	30	59,400	990	367
7.	100	1	1	100 @	26	2,600	50	7
9.	1,200	6	3	337 @	20	7,740	189	72
10.	10,240	90	60	4,980 @	10	49,800	1500	601
12.	640	5	5	780 @	20	15,600	460	241
13.*	700	4	2	192 @	20	3,840	112	33
14.	3,200	20	15	1,950 @	20	39,000	1125	448
15.	19,200	15	15	1,710 @	10	17,100	765	268
16.	3,200	15	15	1,185 @	10	11,850	600	204
20.	5,000	20	10	760 @	10	7,600	450	178
21.	2,500	30	25	1,425 @	15	21,375	825	202
22.	1,280	10	5	420 @	20	8,400	285	79
23.	1,920	20	15	1,230 @	20	24,600	780	194
24.	2,500	30	15	960 @	50	48,000	390	168
Total.....	80,160	407	271	24,746		398,665	11990	4,146
GARRETT COUNTY								
1.	16,000	60	40	4,440 @	$13	57,720	1,000	810
2.	28,400	100	60	7,800 @	13	101,400	1,740	957
3.	16,000	70	60	7,980 @	20	159,600	2,040	1394
4.	28,800	76	50	6,900 @	7	48,650	1,400	1710
5.	20,000	50	30	4,710 @	15	70,650	1,389	1535
6.	26,000	40	30	4,830 @	15	72,450	1,230	1672
8.	28,000	90	60	8,940 @	18	160,920	2,040	2151
9.	7,600	15	15	1,455 @	17	24,735	420	178
10.	8,300	35	30	3,630 @	17	61,710	810	1072
11.	15,360	59	40	6,040 @	9	54,360	1,320	1467
12.	57,000	50	30	3,960 @	13	51,480	870	1046
13.	10,000	40	30	1,750 @	13	48,750	570	572
14.	6,500	20	20	2,300 @	27	62,010	680	432
15.	13,440	66	45	6,030 @	11	66,300	1,395	1214
Total	230,100	771	570	72,765		1040,825	16,865	16201

* -- Areas Taken out due primarily to high potential value for public use.

Page 5. - - Estimated Data on Farms that Should Be Eliminated.

Districts or portions of districts in Problem Area	Total Acreage in Problem Area	Number Farms in Problem Area	SHOULD BE REMOVED					
			Number of Farms	Farm Acreage	Price Per Acre	Value of Real Estate	Acreage in Crops	Acreage in Pasture
HARFORD COUNTY								
1	9,600	30	20	2,080 @	$30.	$62,400	640	464
2 *	1,200	5	5	540 @	30.	16,200	230	104
3 *	1,280	6	6	510 @	40.	20,400	192	154
4 *	2,000	10	10	890 @	25.	22,250	410	210
5	4,000	25	10	1,000 @	25.	25,000	280	225
5 *	1,600	5	5	440 @	25.	11,000	200	200
Total ...	19,680	81	56	5,460		$157,250	1,952	1,357
HOWARD COUNTY								
1 *	320	2	2	170 @	$40	$ 6,800	78	31
2 *	320	2	2	308 @	40.	12,320	130	69
3 *	320	3	3	345 @	40.	13,800	153	78
Total ...	960	7	7	823		$ 32,920	361	178
MONTGOMERY COUNTY								
3	640	-	-	-	-	-	-	-
6 *	320	-	-	-	-	-	-	-
7 *	200	-	-	-	-	-	-	-
10 *	1,000	2	2	350 @	$75	$ 26,250	88	115
Total ...	2,160	2	2	350		$ 26,250	88	115
PRINCE GEORGES COUNTY								
1	200	2	2	194 @	$35.	$ 6,780	54	27
8	2,500	15	10	850 @	25.	21,250	140	120
10	200	2	2	234 @	30.	7,020	44	66
11	2,500	12	8	880 @	20.	17,600	152	152
10	200	2	2	234 @	30.	7,020	44	66
14	12,800	70	50	3,650 @	25.	91,250	700	232
20	640	4	2	288 @	40.	11,520	40	42
21	2,500	10	5	270 @	35.	9,450	100	65
Total ...	21,340	115	79	6,366		$166,040	1,230	704

* -- Areas taken out due primarily to high potential value for public use.

Page 6.--Estimated Data on Farms that should be Eliminated.

Districts or Portions of districts in Problem Area	Total Acreage in Problem Area	Number farms in Problem Area	Number of Farms	Farm Acreage	Price Per Acre	Value of Real Estate	Acreage in Crops	Acreage in Pasture
ST. MARY'S COUNTY								
1.	9,000	40	25	2,675 @	$25	66,875	900	458
SOMERSET COUNTY								
4.	2,000	15	15	1,350 @	30	40,500	450	45
10.	6,000	40	40	3,280 @	25	80,100	1000	200
Total ...	8,000	55	55	4,630 @		120,600	1450	245
WASHINGTON COUNTY								
1.	1,920	10	10	1,499 @	15	22,485	876	371
4.	3,840	25	15	1,950 @	20	29,000	1260	277
5.	14,080	80	50	6,950 @	10	69,500	2450	761
6.	2,600	25	10	630 @	15	9,450	390	109
7.	7.040	60	40	2,240 @	15	33,600	1120	295
8. *	7,040	50	30	1,620 @	15	24,300	750	357
11.*	7,040	15	10	962 @	15	14,430	341	179
14.	4,480	30	20	1,360 @	10	13,600	920	130
15.	15,000	35	15	2,430 @	15	36,450	735	362
16.	3,840	15	10	710 @	10	7,100	450	159
18.	640	3	3	140 @	10	1,400	243	41
19.	640	2	2	160 @	50	8,000	102	26
Total ...	68,170	350	215	20,641		278,815	9639	3061

* -- Areas taken out due to high potential value for public use.

Page 7. - - Estimated Data on Farms that Should Be Eliminated.

Districts or portions of districts in Problem Area	Total Acreage in Problem Area	Number Farms in Problem Area	SHOULD BE REMOVED					
			Number of Farms	Farm Acreage	Price per Acre	Value of Real Estate	Acreage in Crops	Acreage in Pasture
WICOMICO COUNTY								
1	100	1	1	71 @	$27.	$ 1,917	21	7
2	1,200	5	5	620 @	25.	15,500	175	22
3	6,000	30	30	2,100 @	30.	63,000	720	52
5	1,000	10	10	560 @	40.	22,400	280	10
6	5,000	40	40	3,080 @	25.	77,000	1,120	216
8	9,000	80	80	5,440 @	20.	108,800	1,920	87
12	5,000	30	30	1,650 @	35	57,750	540	18
Total ...	27,300	196	196	13,521		$346,367	4,776	412
WORCESTER COUNTY								
2	1,280	10	8	872 @	$30.	$26,160	368	64
6	15,000	50	40	4,520 @	15.	67,800	1,960	290
7	35,000	120	100	10,020 @	15	150,300	6,000	279
8	1,200	10	6	704 @	20	14,080	336	44
2* & 8*	3,346	10	10	980 @	30	29,400	330	66
Total ...	55,826	200	166	17,096		$287,740	8,994	743

* -- Areas taken out due primarily to high potential value for public use.

APPENDIX

A

Bibliography

BIBLIOGRAPHY

In addition to the valued assistance and information as given by various individuals in the preparation of this report, the following publications useful in land planning and with direct reference to Maryland were used:

A. Publications of the University of Md. Experiment Station

1. Bulletin No. 285 - Agricultural Progress in a Typical Maryland Community - October 1926

2. Bulletin No. 337 - Organization and Management of Maryland Farms.

3. Bulletin No. 338 - Economic Efficiency of the Farm Layout in Maryland.

4. Bulletin No. 339 - Taxation in Maryland with Special Reference to Agriculture.

5. Bulletin No. 341 - Housing Conditions in Relation to Farm Labor Turnover.

6. Bulletin No. 351 - The Soils of Maryland.

7. Bulletin No. 352 - Farm Tenancy and Leasing Systems in Maryland.

8. Bulletin No. 357 - Part Time and Small Scale Farming in Maryland.

9. Bulletin No.362 - Crop and Soil Management Practices.

10. Bulletin No. 295 - Does Tile Drainage Pay.

11. "Sunny Southern Maryland" - Southern Maryland Immigration Commission, College Park, Md.

B. Other Publications

1. Annual Report of the State Roads Commission.
2. Annual Report of the State Dept. of Forestry.
3. "The Forests of Maryland" - State Board of Forestry (1916)
4. Annual Report of State Board of Education.
5. Annual Report of State Dept. of Conservation.
6. Soil Survey Reports.
7. "The Agricultural Industry of Maryland" - by Maryland Development Bureau of the Baltimore Association of Commerce.
8. Maryland Relief Statistics - by Maryland E. R. A.
9. Annual Report of Md. State Board of Health.
10. "Our Climate" - Maryland Weather Service.
11. Report, Water Resources Commission of Maryland.
12. Various Reports of U. S. D. A. on Drainage surveys in Maryland.
13. Maryland Geological Survey Reports by County.
14. The Census.

C. Maps

Geological Survey Maps.

Soil Survey Maps.

Forested Area Map - State Dept. of Forestry.

Road Map - State Highway Commission.

Traffic Map - State Highway Commission.

APPENDIX

B

Various Work Maps

(not reproduced on account of expense)

APPENDIX

C

Tables of Statistical Studies

CLASSIFICATION OF MARYLAND'S LAND AREA ACCORDING TO PRODUCTIVITY OF THE SOIL.

By Minor Civil Divisions

Dist.	Total Area. Acres	Problem Land. Acres	Non-Problem Land. Acres	Marginal in Fertility	Sub-Marginal in Fertility	Topographically Sub-Marginal	Problem Land
ALLEGANY COUNTY							
1.	30,080	27,198	2,882	72.34	18.08	-	90.42
2.	34,560	31,999	2,561	7.41	78.70	6.48	92.59
3.	39,680	37,117	2,563	7.25	65.32	20.97	93.54
4.	2,400	480	1,920	-	20.	-	20.
5.	3,840	3,840	--	-	41.67	58.33	100.00
7.	17,920	13,440	4,480	23.21	42.86	8.93	75.00
8.	4,480	3,840	640	78.57	-	7.14	85.71
9.	4,000	3,680	320	80.00	-	12.00	92.00
10.	3,840	1,920	1,920	41.67	-	8.33	50.00
12.	960	320	640	-	-	33.34	33.34
13.	7,680	6,400	1,280	58.33	-	25.00	83.33
15.	4,480	4,160	320	85.71	7.14	-	92.85
16.	19,200	16,360	2,840	10.00	53.33	16.67	80.00
17.	5,120	3,200	1,920	62.50	-	-	62.50
18.	4,480	2,880	1,600	64.29	-	-	64.29
19.	1,920	960	960	50.00	-	-	50.00
20.	8,960	7,680	1,280	42.86	35.71	7.14	85.71
21.	10,880	10,240	640	11.76	41.18	41.18	94.12
22.	4,480	4,000	480	3.57	30.00	35.71	89.28
23.	1,920	1,600	320	-	66.67	16.66	83.33
24.	4,480	2,880	1,600	42.86	-	21.43	64.29
25.	2,240	1,600	640	71.43	-	-	71.43
26.	1,920	1,600	320	83.33	-	-	83.33
27.	3,200	2,240	960	50.00	-	20.00	70.00
29.	10,240	7,680	2,560	12.50	53.13	9.37	75.00
31.	8,320	6,402	1,918	34.62	42.31	-	76.93
33.	14,720	13,439	1,281	47.82	43.48	-	91.30
*Others	8,960	5,546	3,414	7.14	35.71	19.05	61.90
Total	264,960	222,701	42,259	30.67	40.70	12.13	83.50

*Districts 6,11,14,28,30,32.

ANNE ARUNDEL COUNTY							
1.	46,080	5,120	40,960	-	11.11,	-	11.11
2.	50,560	7,680	42,880	-	15.19	-	15.19
3.	56,320	10,240	46,080	-	18.18	-	18.18
4.	53,120	19,200	33,920	-	36.14	-	36.14
7.	10,240	640	9,600	-	6.25	-	6.25
8.	28,800	3,200	25,600	-	11.11	-	11.11
*Others	23,040	5,760	17,280	11.11	13.89	-	25.00
Total..	268,160	51,840	216,320	.95	18.38		19.33

Districts 5 & 6.

Classification of Maryland's Land Area According to Productivity of the Soil. Page 2.

Dist.	Total Area. Acres	Problem Land. Acres	Non-Problem Land. Acres	Marginal in Fertility	Sub-Marginal in Fertility	Topographically Sub-Marginal	Problem Land
BALTIMORE COUNTY							
1.	15,360	7,040	8,320	22.91	-	22.91	45.82
2.	33,280	1,600	31,680	4.81	-	-	4.81
3.	17,920	640	17,280	3.57	-	-	3.57
4.	40,320	640	39,680	1.59	-	-	1.59
5.	30,080	800	29,280	-	2.65	-	2.65
6.	25,600	9,600	16,000	-	37.50	-	37.50
7.	36,480	12,800	23,680	-	35.09	-	35.09
8.	40,960	1,280	39,680	-	3.12	-	3.12
9.	17,280	2,560	14,720	11.11	3.70	-	14.81
10.	33,280	640	32,640	-	1.96	-	1.96
11.	42,240	10,240	32,000	21.21	3.03	-	24.25
12.	3,200	-	3,200	-	-	-	-
13.	7,680	-	7,680	-	-	-	-
14.	9,600	6,720	2,880	70.	-	-	70.
15.	35,200	22,400	12,800	56.36	7.27	-	63.63
Total	388,480	76,960	311,520	11.28	7.62	.91	19.81
CALVERT COUNTY							
1.	47,360	4,480	42,880	2.70	6.76	-	9.46
2.	40,960	3,840	37,120	1.56	7.81	-	9.37
3.	51,200	3,840	47,360	-	7.50	-	7.50
Total	139,520	12,160	127,360	1.38	7.34	-	8.72
CAROLINE COUNTY							
1.	21,760	11,520	10,240	-	52.94	-	52.94
2.	30,080	8,960	21,120	19.15	10.64	-	29.79
3.	28,800	3,840	24,960	6.67	6.67	-	13.34
4.	30,720	3,840	26,880	4.17	8.33	-	12.50
5.	24,320	4,480	19,840	13.16	5.26	-	18.42
6.	25,600	1,920	23,680	2.50	5.00	-	7.50
7.	16,640	1,280	15,360	-	7.69	-	7.69
8.	26,240	1,920	24,320	4.88	2.44	-	7.32
Total	204,160	37,760	166,400	6.90	11.60	-	18.50

Classification of Maryland's Land Area According to Productivity of the Soil. -- Page 3.

Dist.	Total Area. Acres	Problem Land. Acres	Non-Problem Land. Acres	Percent of Land Area: Marginal in Fertility	Sub-Marginal in Fertility	Topographically Sub-Marginal	Problem Land
CARROLL COUNTY							
1.	24,320	4,477	19,203	18.91	-	-	18.91
2.	21,120	8,959	12,161	42.42	-	-	42.42
3.	23,680	15,997	8,323	65.78	-	-	65.78
4.	30,080	319	29,761	-	1.06	-	1.06
5.	19,200	1,278	17,922	-	6.66	-	6.66
6.	31,360	5,757	25,603	18.36	-	-	18.36
7.	28,800	4,158	24,642	13.33	1.11	-	14.44
8.	19,840	633	19,207	-	3.22	-	3.22
9.	17,280	319	16,961	1.85	-	-	1.85
10.	13,440	959	12,481	7.14	-	-	7.14
11.	16,000	2,240	13,760	14.00	-	-	14.00
12.	5,120	1,600	3,520	31.25	-	-	31.25
13.	10,880	479	10,401	4.41	-	-	4.41
14.	24,960	-	24,960	-	-	-	-
Total	286,080	47,175	238,905	15.60	.90	-	16.50
CECIL COUNTY							
1.	42,240	4,480	37,760	4.54	6.06	-	10.60
2.	30,080	3,200	26,880	4.26	6.38	-	10.64
3.	26,880	4,480	22,400	4.76	11.90	-	16.66
4.	16,640	1,280	15,360	3.85	3.85	-	7.70
5.	45,440	32,000	13,440	-	70.42	-	70.42
6.	22,400	3,200	19,200	8.57	5.71	-	14.28
7.	17,280	5,120	12,160	7.41	22.22	-	29.63
8.	10,880	2,560	8,320	17.65	5.88	-	23.53
9.	15,360	1,280	14,080	8.33	-	-	8.33
Total	227,200	57,600	169,600	5.07	20.28	-	25.35
CHARLES COUNTY							
1.	26,240	17,920	8,320	60.98	7.32	-	68.30
2.	26,240	9,600	16,640	24.39	12.19	-	36.58
3.	42,240	14,720	27,520	30.30	4.54	-	34.84
4.	38,400	13,440	24,960	18.33	16.67	-	35.00
5.	26,880	2,560	24,320	4.76	4.76	-	9.52
6.	37,120	17,280	19,840	43.10	3.45	-	46.55
7.	23,680	11,520	12,160	40.54	8.11	-	48.65
8.	44,160	8,960	35,200	13.04	7.24	-	20.28
9.	20,480	5,120	15,360	3.12	3.12	18.75	24.99
10.	20,480	8,320	12,160	37.50	3.12	-	40.62
Total	305,920	109,440	196,480	27.19	7.33	1.25	35.77

Classification of Maryland's Land Area According to Productivity of the soil. -- Page 4.

Dist.	Total Area. Acres	Problem Land. Acres	Non-Problem Land. Acres	Marginal in Fertility	Sub-Marginal in Fertility	Topographically Sub-Marginal	Problem Land
DORCHESTER COUNTY							
1.	34,560	6,400	28,160	3.70	14.82	-	18.52
2.	16,640	1,280	15,360	-	7.69	-	7.69
3.	22,400	9,600	12,800	-	42.86	-	42.86
4.	22,400	16,000	6,400	-	71.43	-	71.43
5.	39,680	38,400	1,280	32.26	64.52	-	96.78
6.	10,880	10,240	640	29.41	64.70	-	94.11
7.	26,880	2,560	24,320	-	9.52	-	9.52
8.	14,080	640	13,440	-	4.54	-	4.54
9.	20,480	10,240	10,240	-	50.00	-	50.00
10.	13,440	13,440	000	19.05	80.95	-	100.00
11.	28,160	24,960	3,200	13.64	75.00	-	88.64
12.	10,880	640	10,240	-	5.88	-	5.88
13.	28,800	17,920	10,880	4.44	57.78	-	62.22
14.	13,440	1,280	12,160	-	9.52	-	9.52
15.	21,760	1,920	19,840	-	8.82	-	8.82
16.	11,520	5,120	6,400	-	44.44	-	44.44
17.	21,760	11,520	10,240	-	52.94	-	52.94
18.	10,880	10,240	640	5.88	88.24	-	94.12
Total	368,640	182,400	186,240	6.94	42.53	-	49.47
FREDERICK COUNTY							
1.	25,600	5,120	20,480	20.00	-	-	20.00
2.	13,440	960	11,840	7.50	-	-	7.50
3.	19,200	2,240	16,960	-	11.66	-	11.66
4.	12,800	1,920	10,880	15.00	-	-	15.00
5.	28,160	7,680	21,120	8.87	16.66	11.--	26.66
6.	15,360	8,960	6,400	-	58.33	-	58.33
7.	32,640	11,200	21,440	21.57	12.74	-	34.31
8.	14,080	6,400	7,680	45.45	-	-	45.45
9.	32,000	11,200	20,800	32.00	3.00	-	35.00
10.	17,920	10,880	7,040	-	60.71	-	60.71
11.	20,480	1,920	18,560	7.81	1.56	-	9.37
13.	12,160	2,720	8,800	22.22	1.39	-	23.61
14.	17,280	3,840	13,440	17.59	4.63	-	22.22
15.	24,320	16,000	9,600	17.50	45.00	-	62.50
16.	15,360	3,840	11,520	4.17	20.85	-	25.00
17.	17,280	5,760	11,520	33.33	-	-	33.33
18.	16,000	3,840	12,160	24.00	-	-	24.00
19.	11,520	5,760	5,760	50.00	-	-	50.00
20.	19,200	9,600	9,600	10.00	40.00	-	50.00
21.	12,800	7,680	5,120	25.00	35.00	-	60.00
22.	10,240	1,280	8,960	-	12.50	-	12.50
23.	8,320	3,200	5,120	30.76	7.68	-	38.45
24.	5,120	3,200	1,920	18.75	43.75	-	62.50
26.	10,240	320	9,280	3.33	-	-	3.33
Others	12,800	640	12,160	-	5.00	-	5.00
Total	424,320	136,160	288,160	16.70	15.32	.07	32.09

Classification of Maryland's Land Area According to Productivity of the Soil. -- Page 5.

Dist.	Total Area. Acres	Problem Land Acres	Non-Problem Land. Acres	Marginal in Fertility	Sub-Marginal in Fertility	Topographically Sub-Marginal	Problem Land
GARRETT COUNTY							
1.	35,200	18,232	16,968	1.80	19.09	30.91	31.80
2.	32,640	27,037	5,603	2.00	2.00	78.44	82.44
3.	42,240	36,904	5,336	1.51	12.12	73.74	87.37
4.	32,640	26,149	6,491	-	22.55	57.84	80.39
5.	31,360	22,398	8,962	11.22	2.04	58.16	71.42
6.	42,240	27,200	15,040	3.03	16.67	44.70	64.40
7.	16,640	4,160	12,480	7.69	5.77	11.54	25.00
8.	42,880	16,641	26,239	4.48	8.96	25.37	38.81
9.	18,560	8,642	9,918	6.90	1.72	27.94	46.56
10.	26,880	10,239	16,641	3.57	9.52	25.00	38.09
11.	16,640	13,919	2,721	1.92	6.73	75.00	83.66
12.	26,240	12,634	13,606	2.44	18.90	26.81	48.15
13.	12,160	3,520	8,640	-	10.53	18.42	28.96
14.	35,200	16,961	18,239	3.64	8.18	36.36	48.18
15.	16,000	12,800	3,200	4.00	-	76.00	80.00
Total	427,520	257,436	170,084	3.52	10.63	45.91	60.14
HARFORD COUNTY							
1.	44,800	15,360	29,440	5.71	28.57	-	34.28
2.	66,560	10,240	56,320	6.73	8.65	-	15.38
3.	58,860	7,040	51,840	7.61	4.35	-	11.96
4.	58,240	6,400	51,840	-	10.99	-	10.99
5.	53,120	8,960	44,160	6.02	10.84	-	16.86
6.	1,280	-	1,280	-	-	-	-
Total	282,860	48,000	234,880	5.20	11.76	-	16.96
HOWARD COUNTY							
1.	12,800	6,400	6,400	-	50.00	-	50.00
2.	20,480	-	20,480	-	-	-	-
3.	27,520	-	27,520	-	-	-	-
4.	37,760	10,240	27,520	18.64	8.47	-	27.11
5.	38,400	-	38,400	-	-	-	-
6.	24,960	8,960	16,000	-	35.90	-	35.90
Total	161,920	25,600	136,320	4.35	11.46	-	15.81
KENT COUNTY							
1.	42,240	3,840	38,400	-	9.09	-	9.09
2.	42,240	5,120	38,400	-	11.76	-	11.76
3.	28,160	3,200	24,960	-	11.36	-	11.36
4.	6,120	1,280	3,840	-	25.00	-	25.00
5.	17,280	3,200	14,080	-	18.52	-	18.52
6.	26,880	1,920	24,960	-	7.14	-	7.14
7.	18,560	1,920	15,360	-	11.11	-	11.11
Total	180,460	20,460	160,000	-	11.36	-	11.35

Classification of Maryland's Land Area According to Productivity of the Soil -- Page 6.

Dist.	Total Area. Acres	Problem Land. Acres	Non-Problem Land. Acres	Marginal in Fertility	Sub-Marginal in Fertility	Topographic-ically Sub-Marginal	Problem Land
MONTGOMERY COUNTY							
1.	26,240	7,680	18,560	29.27	-	-	29.27
2.	23,040	5,120	17,920	22.22	-	-	22.22
3.	39,040	6,080	32,960	13.11	2.46	-	15.57
4.	24,320	1,920	22,400	7.89	-	-	7.89
5.	25,600	7,680	17,920	30.00	-	-	30.00
6.	28,160	3,200	24,960	11.36	-	-	11.36
7.	13,440	-	13,440	-	-	-	-
8.	26,880	-	26,880	-	-	-	-
9.	19,840	5,120	14,720	25.81	-	-	25.81
10.	16,640	2,560	14,080	15.38	-	-	15.38
11.	21,760	1,920	19,840	8.82	-	-	8.82
12.	21,760	7,040	14,720	32.35	-	-	32.35
13.	23,040	1,600	21,440	6.94	-	-	6.94
Total	309,760	49,920	259,840	15.80	.31	-	16.11
PRINCE GEORGES COUNTY							
1.	13,440	6,400	7,040	23.81	23.81	-	47.62
2.	4,480	2,560	1,920	-	57.14	-	57.14
3.	16,640	3,200	13,440	-	19.23	-	19.23
4.	23,680	4,480	19,200	2.70	16.22	-	18.92
5.	30,720	17,920	12,800	52.08	6.25	-	58.33
6.	17,280	8,960	8,320	44.44	7.41	-	51.85
7.	28,160	2,560	25,600	-	9.09	-	9.09
8.	19,840	5,760	14,080	19.35	9.68	-	29.03
9.	17,280	7,680	9,600	37.04	7.41	-	44.45
10.	7,040	3,840	3,200	50.00	4.54	-	54.54
11.	28,800	14,720	14,080	44.44	6.67	-	51.11
12.	12,160	3,200	8,960	21.05	5.26	-	26.31
13.	14,080	2,560	11,520	-	18.18	-	18.18
14.	24,960	8,320	16,640	7.69	25.64	-	33.33
15.	19,200	2,560	16,640	3.33	10.00	-	13.33
17.	5,120	1,920	3,200	25.00	12.50	-	37.50
18.	5,760	640	5,120	8.33	2.77	-	11.10
20.	6,400	3,840	2,560	10.00	50.00	-	60.00
21.	10,880	7,680	3,200	11.76	58.82	-	70.58
*Others	4,480	2,240	2,240	7.15	42.85	-	50.00
Total	310,400	111,040	199,360	20.36	15.41	-	35.77

*Others - Districts 16 & 19.

Classification of Maryland's Land Area According to Productivity of the Soil. -- Page 7

Dist.	Total Area. Acres	Problem Land. Acres	Non-Problem Land. Acres	Percent of Land Area: Marginal in Fertility	Sub-Marginal in Fertility	Topographically Sub-Marginal	Problem Land
QUEEN ANNES							
1.	42,880	18,560	24,320	17.91	25.37	-	43.28
2.	32,640	3,840	28,800	1.96	9.80	-	11.76
3.	45,440	5,760	39,680	2,82	9.86	-	12.68
4.	21,120	2,560	18,560	-	12.12	-	12.12
5.	33,920	3,840	28,160	-	12.00	-	12.00
6.	35,200	5,120	30,080	3,64	10.91	-	14.55
7.	22,400	2,560	21,760	2.63	7.89	-	10.52
Total	233,600	42,240	191,360	4,93	13.15	-	18.08
ST. MARYS COUNTY							
1.	28,800	5,760	23,040	13.33	6.67	-	20.00
2.	21,120	5,760	15,360	21.21	6.06	-	27.27
3.	41,600	12,160	29,440	24.62	4.62	-	29.24
4.	33,280	12,800	20,480	28.85	9.62	-	38.47
5.	27,520	6,400	21,120	13.95	9.30	-	23.25
6.	32,000	4,480	27,520	6.00	8.00	-	14.00
7.	20,480	3,200	17,280	9.38	6.25	-	15.63
8.	32,000	12,800	19,200	34.00	6.00	-	40.00
9.	640	-	640	-	-	-	-
Total	237,440	63,360	174,080	19.68	7.01	-	26.69
SOMERSET COUNTY							
1.	23,680	5,120	18,560	-	21.62	-	21.62
2.	10,240	5,760	4,480	-	56.25	-	56.25
3.	33,280	10,880	22,400	5.77	26.92	-	32.69
4.	26,240	7,680	18,560	9.76	19.51	-	29.27
5.	11,520	3,200	8,320	-	27.78	-	27.78
6.	13,440	7,680	5,760	-	57.14	-	57.14
8.	15,360	6,400	8,960	4.17	37.50	-	41.67
11.	7,040	5,760	1,280	-	81.22	-	81.82
12.	6,400	5,120	1,280	-	80.00	-	80.00
13.	19,200	3,840	15,360	3.33	16.67	-	20.00
14.	2,560	1,280	1,280	-	50.00	-	50.00
15.	25,600	7,040	18,560	12.50	15.00	-	27.50
*Others	22,400	21,120	1,280	-	94.28	-	94.28
Total	216,960	90,880	126,080	4.13	37.76	-	41.89

*Districts - 7, 9, 10.

Classification of Maryland's Land Area According to Productivity of the Soil. -- Page 8

Dist.	Total Area. Acres	Problem Land. Acres	Non-Problem Land. Acres	Percent of Land Area: Marginal in Fertility	Sub-Marginal in Fertility	Topographically Sub-Marginal	Problem Land
TALBOT COUNTY							
1.	45,440	2,560	42,880	-	5.63	-	5.63
2.	22,400	-	22,400	-	-	-	-
3.	42,880	2,560	40,320	-	5.97	-	5.97
4.	49,920	4,480	45,440	-	8.97	-	8.97
5.	10,880	640	10,240	-	5.88	-	5.88
Total	171,520	10,240	161,280	-	5.97	-	5.97
WASHINGTON COUNTY							
1.	14,080	2,878	13,762	1.92	-	15.38	17.30
2.	10,240	1,920	7,680	20.00	-	-	20.00
3.	1,280	160	1,120	12.50	-	-	12.50
4.	16,640	5,598	12,322	.89	12.50	17.85	31.24
5.	32,000	26,873	6,407	30.76	15.38	34.61	80.75
6.	13,440	3,832	9,608	-	2.32	26.19	28.51
7.	12,160	7,038	5,122	-	15.78	42.10	57.88
8.	13,440	8,957	4,483	-	19.04	47.61	66.65
9.	11,520	959	9,281	6.25	3.12	-	9.37
10.	10,880	639	8,961	6.66	-	-	6.66
11.	11,520	7,999	3,521	-	22.22	47.22	69.44
12.	11,520	158	11,362	1.38	-	-	1.38
13.	13,440	2,559	8,961	22.22	-	-	22.22
14.	8,960	5,438	3,522	1.78	26.78	32.14	60.70
15.	29,440	21,116	8,964	17.02	19.14	34.04	70.20
16.	13,440	5,758	7,682	1.19	17.85	23.80	42.84
17.	640	-	640	-	-	-	-
18.	10,880	1,279	9,601	1.47	2.94	7.35	11.76
19.	8,960	2,560	6,400	-	-	28.57	28.57
20.	12,800	800	12,000	6.25	-	-	6.25
21.	4,480	320	4,160	7.14	-	-	7.14
22.	3,840	-	3,840	-	-	-	-
23.	17,280	3,199	14,081	18.51	-	-	18.51
24.	3,200	640	2,560	20.00	-	-	20.00
25.	5,120	320	4,800	6.25	-	-	6.25
26.	2,560	320	1,600	16.66	-	-	16.66
Total	293,760	111,320	182,440	9.53	8.82	19.55	37.90

Classification of Maryland's Land Area According to Productivity of the Soil -- Page 9

Dist.	Total Area. Acres	Problem Land. Acres	Non-Problem Land. Acres	Marginal in Fertility	Sub-Marginal in Fertility	Topographically Sub-Marginal	Problem Land
WICOMICO COUNTY							
1.	27,520	10,240	17,280	18.60	18.60	-	37.20
2.	25,600	7,680	17,920	12.50	17.50	-	30.00
3.	16,640	4,480	12,160	11.54	15.38	-	26.92
4.	18,560	15,360	3,200	62.07	20.69	-	82.76
5.	28,800	7,040	21,760	20.00	4.44	-	24.44
6.	13,440	7,040	6,400	38.10	14.28	-	52.38
7.	12,800	6,400	6,400	35.00	15.00	-	50.00
8.	21,120	7,040	14,080	24.24	9.09	-	33.33
9.	14,720	10,880	3,840	69.56	4.35	-	73.91
10.	5,760	4,480	1,280	66.67	11.11	-	77.78
11.	7,680	1,280	6,400	8.33	8.33	-	16.66
12.	12,800	7,680	5,120	15.00	45.00	-	60.00
13.	3,200	640	2,560	-	20.00	-	20.00
14.	17,920	11,520	6,400	35,71	28.57	-	64.28
15.	9,600	1,920	7,680	-	20.00	-	20.00
16.	5,760	1,280	4,480	-	22.22	-	22.22
Total	241,920	104,960	136,960	26.98	16.40	-	43.38
WORCESTER COUNTY							
1.	27,520	6,400	21,120	4.65	18.60	-	23.25
2.	49,920	14,720	35,200	3.85	25,64	-	29.49
3 & 10	42,240	10,880	31,360	4.54	21.21	-	25.75
4.	28,160	5,760	22,400	4.54	15.91	-	20.45
5.	24,960	15,360	9,600	43.59	17.95	-	61.54
6.	23,680	17,280	6,400	64.86	8.11	-	72.97
7.	44,800	35,840	8,960	71.43	8.57	-	80.00
8.	37,760	11,520	26,240	16.95	13.56	-	30.51
9.	37,760	4,480	33,280	5.08	6.78	-	11.86
Total	316,800	122,240	194,560	23.03	15.55	-	38.58
*State	6,262,400	1,991,196	4,271,204	12.17	14.92	4.71	31.8

*Does not include Baltimore City.

Dist.	Acres in Land Area	Acres of Farm Land	Percent of all land in farms
[illegible] County			
1.	30,[illegible]	12,054	[illegible].17
2.	34,560	20,712	[illegible]
3.	39,[illegible]	22,7[illegible]	61.[illegible]
4.	2,4[illegible]	[illegible]	5.[illegible]
5.	3,942	2,865	72.[illegible]
7.	17,[illegible]20	11,[illegible]5	61.[illegible]
8.	4,480	1,1[illegible]	[illegible].7
9.	4,[illegible]	3,[illegible]54	[illegible]
10.	3,[illegible]	1,3[illegible]	[illegible].10
12.	[illegible]69	[illegible]50	47.[illegible]
13.	7,[illegible]	3,717	[illegible]
15.	4,[illegible]	4,1[illegible]	[illegible].[illegible]
16.	19,[illegible]	15,[illegible]01	78.[illegible]
17.	[illegible],120	3,0[illegible]	50.[illegible]
18.	4,[illegible]	1,97[illegible]	[illegible].17
19.	1,[illegible]	1,[illegible]	74.[illegible]
20.	[illegible]	1,[illegible]4	27.[illegible]
21.	10,[illegible]	10,[illegible]	[illegible]
22.	[illegible],[illegible]	[illegible],[illegible]	[illegible].2[illegible]
23.	1,[illegible]	1,[illegible]	[illegible]
24.	[illegible],[illegible]	3,419	72.[illegible]
25.	3,[illegible]	[illegible]50	[illegible].41
26.	1,[illegible]	1,15[illegible]	[illegible]
27.	3,[illegible]	1,12[illegible]	[illegible]
28.	15,[illegible]	[illegible],[illegible]	[illegible]
31.	[illegible],[illegible]	1,[illegible]	13.[illegible]
33.	14,[illegible]	3,[illegible]	25.[illegible]
Others	[illegible],[illegible]	[illegible]	[illegible]
Total	[illegible],[illegible]	139,329	52.[illegible]
Districts [illegible],11,1[illegible],[illegible],[illegible].			
[illegible] County			
1.	42,[illegible]	[illegible]	75.[illegible]1
2.	5[illegible],[illegible]	21,2[illegible]1	[illegible]
3.	[illegible],[illegible]	[illegible]	67.[illegible]
[illegible]	[illegible],1[illegible]	2[illegible],[illegible]40	[illegible].[illegible]6
7.	13,[illegible]	[illegible],3[illegible]5	[illegible]
[illegible]	2[illegible],[illegible]	24,471	24.[illegible]
Others	[illegible],[illegible]	[illegible],[illegible]	[illegible].13
Total	2[illegible],160	15[illegible],[illegible]15	54.[illegible]

Dist.	Acres in Land Area	Acres of Farm Land	Percent of all land in farms
[illegible] County			
1.	1[illegible],[illegible]	[illegible]	1.[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
3.	1[illegible],[illegible]	[illegible]	1,1[illegible]
[illegible]	4[illegible],[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	1[illegible],[illegible]	[illegible]
[illegible]	[illegible]	[illegible],1	[illegible]
[illegible]	[illegible]	[illegible],[illegible]	[illegible].1
[illegible]	[illegible]	[illegible],[illegible]	[illegible].1
10.	[illegible]	[illegible]	[illegible]
11.	[illegible]	[illegible],1	[illegible].11
12.	[illegible]	1,[illegible]	[illegible]
13.	[illegible]	[illegible]	[illegible]
14.	[illegible]	[illegible]	[illegible].1
15.	[illegible]	[illegible]	[illegible]
Total ...	[illegible]	[illegible],[illegible]	[illegible]
[illegible] County			
1.	[illegible]	[illegible]	[illegible]
2.	[illegible]	[illegible]	[illegible].50
3.	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
Total ..	[illegible],159	1[illegible],[illegible]	[illegible]

Page 2. Percent of Total Land Area in Farms.

Dist.	Acres in Land Area	Acres of Farm Land	Percent of all land in farms
CARROLL COUNTY			
1.	24,320	24,035	98.82
2.	21,120	20,301	96.12
3.	23,680	22,010	92.94
4.	30,080	24,548	81.61
5.	19,200	16,455	85.70
6.	31,360	28,349	90.40
7.	28,800	28,005	97.24
8.	19,840	16,732	84.33
9.	17,280	15,136	87.59
10.	13,440	13,237	98.49
11.	16,000	15,172	94.82
12.	5,120	4,496	87.81
13.	10,880	9,482	87.15
14.	24,960	21,402	85.74
Total..	286,080	259,360	90.65
CECIL COUNTY			
1.	42,240	38,219	90.48
2.	30,080	25,750	85.60
3.	26,880	18,758	69.78
4.	16,640	16,534	99.36
5.	45,440	19,891	43.77
6.	22,400	17,761	79.29
7.	17,280	16,796	97.19
8.	10,880	6,795	62.45
9.	15,360	14,725	95.86
Total	227,200	175,229	77.12

Dist.	Acres in Land Area	Acres of Farm Land	Percent of all land in farms
CHARLES COUNTY			
1.	26,240	23,922	91.17
2.	26,240	16,421	62.58
3.	42,240	24,065	56.97
4.	38,400	31,030	80.81
5.	26,880	17,324	64.45
6.	37,120	23,916	64.43
7.	23,680	9,607	40.57
8.	44,160	35,060	79.39
9.	20,480	15,166	74.05
10.	20,480	8,500	41.50
Total ..	305,920	205,011	67.01
DORCHESTER COUNTY			
1.	34,560	20,558	59.48
2.	16,640	12,715	76.41
3.	22,400	15,638	69.81
4.	22,400	4,244	18.95
5.	39,680	5,797	14.60
6.	10,880	2,538	23.33
7.	26,880	14,101	52.56
8.	14,080	10,552	74.94
9.	20,480	10,006	48.86
10.	13,440	2,210	16.44
11.	28,160	5,811	20.64
12.	10,880	9,166	84.25
13.	28,800	12,119	42.08
14.	13,440	12,319	91.66
15.	21,760	18,395	84.54
16.	11,520	3,624	31.46
17.	21,760	12,143	55.80
18.	10,880	313	2.88
Total	368,640	172,249	46.72

Dist.	Acres in Land Area	Acres of Farm Land	Percent of all land in farms
FREDERICK COUNTY			
1.	25,600	22,343	87.28
2.	13,440	13,165	97.95
3.	19,200	17,587	91.60
4.	12,800	12,172	95.09
5.	28,160	23,290	82.70
6.	15,360	11,651	75.85
7.	32,640	27,671	84.78
8.	14,080	13,280	94.32
9.	32,000	25,731	80.41
10.	17,920	13,109	73.15
11.	20,480	15,550	75.93
13.	12,160	11,773	96.81
14.	17,280	13,130	75.98
15.	24,320	13,846	56.94
16.	15,360	14,071	91.61
17.	17,280	15,078	87.26
18.	16,000	13,943	87.14
19.	11,520	11,475	99.60
20.	19,200	11,367	59.20
21.	12,800	9,127	71.30
22.	10,240	9,960	97.26
23.	8,320	8,056	96.83
24.	5,120	3,504	68.43
26.	10,240	9,770	95.41
*Others	12,800	9,694	75.73
Total..	424,320	350,343	82.56
GARRETT COUNTY			
1.	35,200	17,823	50.63
2.	32,640	24,568	75.27
3.	42,240	29,702	70.32
4.	32,640	10,552	32.33
5.	31,360	23,284	74.25
6.	42,240	13,711	32.60
7.	16,640	10,645	63.97
8.	42,880	32,188	75.06
9.	18,560	8,920	48.06
10.	26,880	20,521	76.34
11.	16,640	8,886	53.32
12.	26,240	14,160	53.96
13.	12,160	5,245	43.13
14.	35,200	12,209	34.68
15.	16,000	8,834	55.21
Total..	427,520	241,248	56.43

Dist.	Acres in Land Area	Acres of Farm Land	Percent of All land in farms
HARFORD COUNTY			
1.	44,800	15,777	35.22
2.	66,560	43,072	64.71
3.	58,880	52,769	89.62
4.	58,240	57,103	98.05
5.	53,120	42,784	80.54
6.	1,280	858	67.03
Total	282,880	212,363	75.07
HOWARD COUNTY			
1.	12,800	6,152	48.06
2.	20,480	13,434	65.60
3.	27,520	25,058	91.05
4.	37,760	36,170	95.79
5.	38,400	30,351	79.04
6.	24,960	17,672	70.80
Total..	161,920	128,837	79.57
KENT COUNTY			
1.	42,240	36,941	87.46
2.	42,240	38,358	90.80
3.	28,160	26,054	92.52
4.	5,120	4,662	91.05
5.	17,280	15,293	88.50
6.	26,880	20,227	75.44
7.	18,560	17,925	96.57
Total...	180,480	159,460	88.35
MONTGOMERY COUNTY			
1.	26,240	25,520	97.26
2.	23,040	21,122	91.68
3.	39,040	35,365	90.59
4.	24,320	16,701	68.67
5.	25,600	17,063	66.65
6.	28,160	21,297	75.63
7.	13,440	3,119	23.21
8.	26,880	24,155	89.86
9.	19,840	17,835	89.89
10.	16,640	9,818	59.
11.	21,760	21,050	96.74
12.	21,760	19,233	88.39
13.	23,040	6,450	27.99
Total..	309,760	238,728	77.07

*Districts -- 12 & 25

Dist.	Acres in Land Area	Acres of Farm Land	Percent of all land in farms
PRINCE GEORGES COUNTY			
1.	13,440	5,831	43.39
2.	4,480	525	11.72
3.	16,640	14,367	86.34
4.	23,680	20,246	85.50
5.	30,720	20,256	65.94
6.	17,280	7,080	40.97
7.	28,160	26,598	94.45
8.	19,840	16,162	81.46
9.	17,280	13,632	78.89
10.	7,040	4,468	63.46
11.	28,800	21,055	73.11
12.	12,160	7,114	58.50
13.	14,080	10,186	72.34
14.	24,960	15,048	60.29
15.	19,200	16,174	84.24
17.	5,120	2,616	51.09
18.	5,760	2,233	38.77
20.	6,400	1,300	20.31
21.	10,880	2,167	19.92
*Others	4,480	401	8.95
Total...	310,400	207,459	66.84
QUEEN ANNES COUNTY			
1.	42,880	36,167	84.34
2.	32,640	30,856	94.53
3.	45,440	40,980	90.18
4.	21,120	19,186	90.84
5.	33,920	32,699	96.40
6.	35,200	33,867	96.21
7.	22,400	15,660	69.91
Total..	233,600	209,415	89.64

*Prince Georges County - Districts, 16 and 19

Dist.	Acres in Land Area	Acres of Farm Land	Percent of all land in farms
ST. MARYS COUNTY			
1.	28,800	15,863	55.08
2.	21,120	15,794	74.78
3.	41,600	33,335	80.13
4.	33,280	22,698	68.20
5.	27,520	24,055	87.41
6.	32,000	22,834	71.36
7.	20,480	14,478	70.69
8.	32,000	18,490	57.78
9.	640	--	--
Total..	237,440	167,547	70.56
SOMERSET COUNTY			
1.	23,680	17,734	74.89
2.	10,240	3,005	29.35
3.	33,280	23,737	71.32
4.	26,240	18,940	72.18
5.	11,520	6,385	55.42
6.	13,440	4,144	30.83
8.	15,360	8,978	58.45
11.	7,040	540	7.67
12.	6,400	232	3.62
13.	19,200	15,740	81.98
14.	2,560	276	10.78
15.	25,600	17,464	68.22
*Others	22,400	398	1.78
Total..	216,960	117,573	54.19
TALBOT COUNTY			
1.	45,440	40,556	89.25
2.	22,400	17,591	78.53
3.	42,880	38,380	89.50
4.	49,920	47,090	94.33
5.	10,880	8,957	82.32
Total	171,520	152,574	88.95

*Somerset County-Districts, 7,9 and 10

Page 5 -- Percent of Total Land Area in Farms.

Dist.	Acres in Land Area	Acres of Farm Land	Percent of all land in farms
WASHINGTON COUNTY			
1.	14,080	12,182	86.51
2.	10,240	9,627	94.01
3.	1,280	357	27.89
4.	16,640	14,543	87.40
5.	32,000	25,109	78.46
6.	13,440	11,167	83.09
7.	12,160	9,853	81.03
8.	13,440	8,965	66.70
9.	11,520	11,427	99.19
10.	10,880	10,196	93.71
11.	11,520	5,679	49.30
12.	11,520	10,472	90.90
13.	13,440	13,172	98.00
14.	8,960	5,325	59.43
15.	29,440	16,316	55.42
16.	13,440	9,659	71.87
17.	640	597	93.28
18.	10,880	9,242	84.94
19.	8,960	7,684	85.76
20.	12,800	12,584	98.31
21.	4,480	3,700	82.59
22.	3,840	2,728	71.04
23.	17,280	12,287	71.10
24.	3,200	2,464	77.00
25.	5,120	3,377	65.96
26.	2,560	2,137	83.48
Total	293,760	230,849	78.58

Dist.	Acres in Land area	Acres of Farm Land	Percent of all land in farms
WICOMICO COUNTY			
1.	27,520	15,093	54.84
2.	25,600	14,589	56.99
3.	16,640	6,529	39.24
4.	18,560	14,056	75.73
5.	28,800	16,151	56.08
6.	13,440	9,606	71.47
7.	12,800	7,918	61.86
8.	21,120	13,671	64.73
9.	14,720	12,055	81.90
10.	5,760	3,153	54.74
11.	7,680	5,613	73.08
12.	12,800	5,271	41.18
13.	3,200	1,592	49.75
14.	17,920	11,911	66.47
15.	9,600	7,960	82.92
16.	5,760	2,615	45.40
Total..	241,920	147,783	61.09
WORCESTER COUNTY			
1.	27,520	18,894	68.66
2.	49,920	31,400	62.90
3 & 10	42,240	22,764	53.89
4.	28,160	18,033	64.04
5.	24,960	16,031	64.23
6.	23,680	12,311	51.99
7.	44,800	18,111	40.43
8.	37,760	23,676	62.70
9.	37,760	27,202	72.04
Total	316,800	188,422	59.48

LAND AREA CLASSIFIED ACCORDING TO ITS USE.

	TOTAL LAND AREA									
	Farm Land in Crops		Idle or Fallow Farm Land		Farm Land in Pasture		Wooded & Other Farm Land		Land not in Farms	
Dist.	Acres	%	Acres	%	Acres	%	Acres	%	Acres	%
ALLEGANY COUNTY										
1.	2,032	7	1,064	4	1,895	6	7,063	23	18,026	60
2.	2,508	7	259	1	1,974	6	15,971	46	13,848	40
3.	3,411	8	1,251	3	4,872	12	13,201	34	16,945	43
4.	61	2	32	1	19	1	17	1	2,271	95
5.	625	16	141	4	608	16	1,491	39	975	25
7.	2,355	14	261	1	2,367	13	6,082	34	6,855	38
8.	295	6	38	1	263	6	599	13	3,285	74
9.	897	23	341	8	842	21	1,774	44	146	4
10.	293	8	106	3	496	13	455	12	2,490	64
12.	183	19	25	3	167	17	81	8	504	53
13.	811	11	648	8	530	7	928	12	4,763	62
15.	820	18	460	10	504	11	2,366	53	330	8
16.	2,512	13	2,013	10	1,770	9	8,796	46	4,109	22
17.	459	9	294	6	538	10	1,747	34	2,082	41
18.	452	10	310	7	404	9	812	18	2,502	56
19.	375	20	153	8	328	17	576	30	488	25
20.	465	5	259	3	136	2	1,644	18	6,456	72
21.	1,567	15	873	8	1,584	14	6,022	55	834	8
22.	795	18	569	13	1,165	26	1,470	33	481	10
23.	370	20	290	15	469	24	521	27	270	14
24.	715	16	177	4	478	11	2,049	46	1,061	23
25.	281	12	15	1	76	3	578	26	1,290	58
26.	139	7	32	2	63	3	872	45	814	43
27.	235	7	38	1	258	8	597	19	2,072	65
29.	508	5	230	2	404	4	2,538	25	6,560	64
31.	287	3	141	2	164	2	913	11	6,815	82
33.	988	7	201	1	230	2	2,262	15	11,039	75
*Others	276	3	7	/1	102	1	248	3	8,327	93
Total	24,715	9	10,228	4	22,706	8	81,673	31	125,638	48

/1 - Less than 1/2 of .1%

* Districts - 6,11,14,28,30 & 32.

ANNE ARUNDEL COUNTY										
1.	9,342	20	4,432	10	11,357	25	9,712	21	11,237	24
2.	5,914	12	3,315	6	2,399	5	9,573	19	29,359	58
3.	6,089	11	3,644	6	1,719	3	9,856	17	35,012	63
4.	7,854	15	4,037	8	2,075	4	11,883	22	27,271	51
7.	1,405	14	1,110	11	769	7	1,101	11	5,855	57
8.	6,548	23	1,534	5	11,484	40	4,905	17	4,329	15
*Other	3,420	15	1,108	5	413	2	1,317	6	16,782	72
Total.	40,572	15	19,180	7	30,216	11	48,347	18	129,845	49

*Districts 5 & 6

Land Area Classified According to Its Use. - Page 2.

	TOTAL LAND AREA									
	Farm Land in Crops		Idle or Fallow Farm Land		Farm Land In Pasute		Wooded & Other Farm Land		Land not in Farms	
Dist.	Acres	%	Acres	%	Acres	%	Acres	%	Acres	%
BALTIMORE COUNTY										
1.	2,628	17	338	2	700	4	1,152	8	10,542	69
2.	8,466	26	1,425	4	2,346	7	6,084	18	14,959	45
3.	2,870	16	663	4	1,346	8	2,489	14	10,552	58
4.	14,046	35	4,786	12	5,747	14	9,916	25	5,825	14
5.	14,608	48	1,840	6	3,507	12	7,265	24	2,860	10
6.	7,849	31	1,565	6	2,509	10	4,597	18	9,080	35
7.	13,500	37	3,507	10	5,513	15	8,666	24	5,294	14
8.	11,580	28	1,869	5	4,345	11	5,886	14	17,280	42
9.	3,216	19	999	6	1,179	7	2,816	16	9,070	52
10.	11,618	35	1,878	6	6,127	18	6,023	18	7,634	23
11.	13,958	33	2,711	6	4,651	11	9,561	23	11,359	27
12.	1,558	49	75	2	69	2	157	5	1,341	42
13.	833	11	215	3	133	2	289	4	6,210	80
14.	1,971	21	253	3	440	4	2,541	26	4,395	46
15.	6,939	20	692	2	731	2	4,503	13	22,335	63
Total	115,640	30	22,816	6	39,343	10	71,945	18	138,736	36
CALVERT COUNTY										
1.	4,480	9	2,860	6	6,160	13	19,334	41	14,526	31
2.	6,939	17	14,805	36	1,175	3	16,961	41	1,080	3
3.	7,365	14	10,635	21	6,526	13	14,399	28	12,275	24
Total	18,784	13	28,300	20	13,861	10	50,694	37	27,881	20
CAROLINE COUNTY										
1.	6,700	31	4,104	19	2,036	9	6,821	31	2,099	10
2.	10,803	36	4,105	14	2,429	8	7,101	24	5,642	18
3.	10,249	36	1,128	4	3,132	11	10,103	35	4,188	14
4.	10,498	35	2,244	7	2,296	7	7,827	25	7,855	26
5.	6,997	28	1,659	7	1,352	6	5,953	24	8,359	35
6.	10,649	42	1,822	7	4,125	16	4,500	17	4,504	18
7.	9,145	55	869	5	1,768	11	3,334	20	1,524	9
8.	8,973	34	1,192	4	3,058	12	10,549	40	2,468	10
Total	74,014	36	17,123	8	20,196	10	56,188	28	36,639	18

Land Area Classified According to Its Use. - Page 3

	TOTAL LAND AREA									
	Farm Land In Crops		Idle or Fallow Farm land		Farm Land In Pasture		Wooded & Other Farm Land		Land Not in Farms	
Dist.	Acres	%	Acres	%	Acres	%	Acres	%	Acres	%
CARROLL COUNTY										
1.	16,825	69	797	3	2,117	9	4,296	18	285	1
2.	13,892	66	686	3	2,434	12	3,289	16	819	3
3.	12,956	55	707	3	2,217	9	6,130	26	1,670	7
4.	11,875	39	4,115	14	2,781	9	5,777	19	5,532	19
5.	7,267	38	1,963	10	2,835	15	4,390	23	2,745	14
6.	17,799	57	776	2	3,359	11	6,415	20	3,011	10
7.	18,658	65	604	2	3,416	12	5,327	18	795	3
8.	10,597	53	999	5	1,886	10	3,250	16	3,108	16
9.	7,929	46	572	3	3,217	19	3,418	20	2,144	12
10.	8,779	65	756	6	1,697	13	2,005	15	203	1
11.	10,275	64	278	2	2,830	18	1,789	11	828	5
12.	3,127	61	49	1	941	18	379	7	624	13
13.	4,686	43	659	6	1,671	15	2,466	23	1,398	13
14.	10,387	42	1,748	7	3,984	16	5,283	21	3,558	14
Total	155,052	54	14,709	5	35,385	12	54,214	19	26,720	10
CECIL COUNTY										
1.	19,225	45	1,761	4	9,365	22	7,868	19	4,021	10
2.	10,802	36	956	3	5,371	18	8,621	29	4,330	14
3.	7,549	28	1,394	5	4,056	15	5,759	22	8,122	30
4.	7,461	45	1,296	8	3,736	22	4,041	24	106	1
5.	5,429	12	2,523	5	2,743	6	9,196	21	25,549	56
6.	8,846	40	2,059	9	3,265	14	3,591	16	4,639	21
7.	4,710	27	996	6	1,713	10	9,377	54	484	3
8.	2,145	20	1,161	11	1,547	14	1,942	17	4,085	38
9.	7,889	51	647	5	3,252	21	2,937	19	635	4
Total	74,056	32	12,793	6	35,048	15	53,332	24	51,971	23
CHARLES COUNTY										
1.	4,263	16	2,163	8	4,333	16	13,163	51	2,318	9
2.	3,311	13	2,039	8	3,804	14	7,267	28	9,819	37
3.	3,072	7	3,479	8	2,147	5	15,367	37	18,175	43
4.	6,753	18	2,913	8	5,128	13	16,236	42	7,370	19
5.	4,997	19	1,208	4	4,471	17	6,648	25	9,556	35
6.	5,026	14	3,183	8	3,918	10	11,789	32	13,204	36
7.	1,181	5	2,706	11	1,587	7	4,133	17	14,073	60
8.	7,101	16	4,662	10	5,210	12	18,087	41	9,100	21
9.	2,333	12	1,791	9	1,736	8	9,306	45	5,314	26
10.	1,035	5	768	4	940	4	5,757	28	11,980	59
Total	39,072	12	24,912	8	33,274	11	107,753	36	100,909	33

	TOTAL LAND AREA									
	Farm Land in Crops		Idle or Fallow Farm Land		Farm Land in Pasture		Wooded & Other Farm Land		Land not in Farms	
Dist.	Acres	%	Acres	%	Acres	%	Acres	%	Acres	%
DORCHESTER COUNTY										
1.	8,663	25	1,982	6	1,885	5	8,028	23	14,002	41
2.	6,003	36	2,020	12	1,150	7	3,542	21	3,925	24
3.	5,586	25	1,327	6	2,279	10	6,446	29	6,762	30
4.	1,381	6	612	3	356	2	1,895	8	18,156	81
5.	1,510	4	834	2	491	1	2,962	7	33,883	85
6.	331	3	184	2	230	2	1,793	16	8,342	77
7.	6,814	26	862	3	1,640	6	4,785	18	12,779	47
8.	4,275	30	907	6	1,394	10	3,976	28	3,528	26
9.	4,755	23	527	2	785	4	3,939	19	10,474	52
10.	424	3	196	1	760	6	830	6	11,230	84
11.	1,559	6	322	1	751	3	3,179	11	22,349	79
12.	4,338	40	530	5	1,366	12	2,932	27	1,714	16
13.	5,041	18	1,280	4	1,175	4	4,623	16	16,681	58
14.	4,091	30	1,648	12	2,126	16	4,454	33	1,121	9
15.	9,594	44	1,560	7	1,769	8	5,472	25	3,365	16
16.	1,380	12	319	3	282	2	1,643	14	7,896	69
17.	5,020	23	1,271	6	1,504	7	4,348	20	9,617	44
18.	111	1	102	1	---	-	100	1	10,567	97
Total	70,876	19	16,483	4	19,943	5	64,947	18	196,391	54
FREDERICK COUNTY										
1.	14,268	56	979	4	5,079	20	2,017	8	3,257	12
2.	9,725	72	139	1	2,523	19	778	6	275	2
3.	11,438	59	247	1	3,886	20	2,016	11	1,613	9
4.	7,053	55	1,116	9	2,455	19	1,548	12	628	5
5.	13,537	48	1,264	4	4,163	15	4,326	15	4,870	18
6.	4,942	32	286	2	1,461	10	4,962	32	3,709	24
7.	13,775	42	1,861	6	5,111	16	5,924	21	4,969	15
8.	8,004	57	683	5	2,367	17	2,226	16	800	5
9.	12,610	39	1,122	4	4,774	15	7,225	22	6,269	20
10.	4,005	22	693	4	1,584	9	6,827	38	4,811	27
11.	9,634	47	677	3	3,526	17	1,713	8	4,930	25
13.	6,886	57	593	5	2,122	17	2,172	18	387	3
14.	7,472	43	618	4	2,991	17	2,049	12	4,150	24
15.	6,193	25	300	1	2,160	9	5,193	21	10,474	44
16.	7,061	46	365	2	2,408	16	4,237	28	1,289	8
17.	9,903	57	585	3	2,204	13	2,386	14	2,202	13
18.	7,371	46	789	5	2,288	14	3,495	22	2,057	13
19.	7,481	65	643	6	1,776	15	1,575	14	45	/1
20.	6,690	35	688	4	2,662	14	1,327	7	7,833	40
21.	5,344	42	824	6	1,297	10	1,662	13	3,673	29
22.	6,743	66	195	2	1,891	18	1,131	11	280	3
23.	5,057	61	879	10	1,265	15	855	10	264	4
24.	1,909	37	152	3	816	15	627	12	1,616	32
26.	7,496	73	10	/1	1,462	14	802	8	470	5
Others	5,673	44	51	/1	2,895	23	1,075	8	3,106	24
Total	200,270	47	15,759	4	65,166	15	69,148	16	73,977	18

/1 - Less than 1/2 of .1%

*Districts -- 12, and 25.

	TOTAL LAND AREA									
	Farm Land In Crops		Idle or Fallow Farm Land		Farm Land In Pasture		Wooded & Other Farm Land		Land Not in Farms	
Dist.	Acres	%	Acres	%	Acres	%	Acres	%	Acres	%
GARRETT COUNTY										
1.	3,966	11	721	2	3,241	9	9,895	28	17,377	50
2.	5,464	17	517	2	3,035	9	15,552	48	8,072	24
3.	7,620	18	124	/1	5,183	12	16,775	40	12,538	30
4.	2,146	6	24	/1	2,600	8	5,782	18	22,088	68
5.	6,857	22	98	/1	7,569	24	8,760	28	8,076	26
6.	3,498	8	119	/1	4,742	11	5,352	13	28,529	68
7.	3,857	23	8	/1	3,548	21	3,232	19	5,995	37
8.	7,450	17	301	1	7,747	18	16,690	39	10,692	25
9.	2,537	14	181	1	1,090	6	5,112	28	9,640	51
10.	4,522	17	421	1	6,035	23	9,543	36	6,359	23
11.	1,944	12	219	1	2,164	13	4,559	27	7,754	47
12.	3,085	12	132	1	3,730	14	7,213	27	12,080	46
13.	780	7	122	1	801	6	3,542	29	6,915	57
14.	3,590	10	243	1	2,242	6	6,134	17	22,991	65
15.	2,054	13	388	2	1,780	11	4,612	29	7,166	45
Total.	59,370	14	3,618	1	55,507	13	122,753	29	186,272	43
HARFORD COUNTY										
1.	4,807	11	1,060	2	3,527	8	6,383	14	29,023	65
2.	18,240	27	3,817	6	8,321	12	12,694	19	23,488	35
3.	19,905	34	2,122	4	15,935	27	14,807	25	6,111	10
4.	26,109	45	1,475	2	13,422	23	16,097	28	1,137	2
5.	16,378	31	728	1	12,563	24	13,115	25	10,336	19
6.	126	10	158	12	301	24	273	21	422	33
Total..	85,565	31	9,360	3	54,069	19	63,369	22	70,517	25
HOWARD COUNTY										
1.	2,808	22	516	4	1,116	9	1,712	13	6,648	52
2.	5,649	28	1,677	8	3,021	15	3,087	15	7,046	34
3.	11,308	41	1,623	6	5,723	21	6,404	23	2,462	9
4.	17,631	47	1,945	5	8,114	21	8,480	22	1,590	5
5.	12,947	34	2,187	6	7,497	19	7,720	20	8,049	21
6.	7,165	29	1,494	6	4,148	17	4,865	19	7,288	29
Total..	57,508	36	9,442	6	29,619	18	32,268	20	33,083	20
KENT COUNTY										
1.	17,641	42	2,380	6	7,461	18	9,459	22	5,299	12
2.	21,972	52	1,669	4	7,848	18	6,869	16	3,882	10
3.	11,996	42	2,510	9	4,856	17	6,692	24	2,106	8
4.	2,362	46	135	3	1,180	23	985	19	458	9
5.	6,548	38	939	5	3,044	18	4,762	28	1,987	11
6.	9,467	35	2,773	10	3,768	14	4,219	16	6,653	25
7.	8,644	46	1,550	8	3,432	18	4,299	24	635	4
Total..	78,630	44	11,956	7	31,589	18	37,285	20	21,020	11

/1 -- Less than 1/2 of .1%

Land Area Classified According to Its Use. -- Page 6.

	TOTAL LAND AREA									
	Farm Land In Crops		Idle or Fallow Farm Land		Farm Land In Pasture		Wooded & Other Farm Land		Land Not in Farms	
Dist.	Acres	%	Acres	%	Acres	%	Acres	%	Acres	%
MONTGOMERY COUNTY										
1.	11,549	44	1,097	4	6,800	26	6,074	23	720	3
2.	8,527	37	917	4	6,168	27	5,510	24	1,918	8
3.	12,441	32	1,787	4	15,352	39	5,785	15	3,675	10
4.	6,841	28	924	4	4,106	17	4,830	20	7,619	31
5.	6,632	26	1,646	6	3,392	13	5,393	21	8,537	33
6.	9,842	35	858	3	4,799	17	5,798	20	6,863	25
7	761	6	211	2	848	6	1,299	10	10,321	76
8.	10,043	38	2,310	9	5,970	22	5,832	21	2,725	10
9.	7,336	37	929	5	5,050	25	4,520	23	2,005	10
10.	2,451	15	38	/1	3,214	19	4,115	25	6,822	41
11.	9,131	42	1,219	6	6,072	28	4,628	21	710	3
12.	8,554	39	1,000	4	4,559	21	5,120	24	2,527	12
13.	1,931	8	248	1	2,343	10	1,928	9	16,590	72
Total.	96,039	31	13,184	4	68,673	22	60,832	20	71,032	23
PRINCE GEORGES COUNTY										
1.	1,641	13	614	4	821	6	2,755	20	7,609	57
2.	60	1	150	3	154	3	161	4	3,955	89
3.	3,505	21	2,797	17	3,162	19	4,903	29	2,273	14
4.	4,673	20	6,120	26	3,154	13	6,299	26	3,434	15
5.	4,002	13	1,815	6	5,123	17	9,316	30	10,464	34
6.	2,415	14	1,222	7	694	4	2,749	16	10,200	59
7.	7,366	26	4,870	17	6,142	22	8,220	29	1,562	6
8.	2,741	14	2,654	13	2,440	12	8,327	42	3,678	19
9.	2,996	17	3,402	20	1,939	11	5,295	31	3,648	21
10.	825	12	449	6	632	9	2,562	36	2,572	37
11.	3,611	12	3,485	12	3,310	12	10,649	37	7,745	27
12.	2,543	21	1,459	12	543	4	2,569	21	5,046	42
13.	3,832	27	1,514	11	2,512	18	2,328	16	3,894	28
14.	2,944	12	2,933	12	1,606	6	7,565	30	9,912	40
15.	4,347	23	1,728	9	3,873	20	6,226	32	3,026	16
17.	1,098	21	385	8	524	10	609	12	2,504	49
18.	1,059	18	349	6	428	7	397	7	3,527	62
20.	178	3	715	11	192	3	215	3	5,100	80
21.	811	7	326	3	257	2	773	7	8,713	81
*Others	162	4	7	/1	47	1	185	4	4,079	91
Total..	50,809	16	36,994	12	37,553	12	82,103	26	102,941	34

*Districts - 16 & 19.

/1 -- Less than 1/2 of .1%.

Land Area Classified According to Its Use. -- Page 7.

Dist.	Farm Land In Crops Acres	%	Idle or Fallow Farm Land Acres	%	Farm Land In Pasture Acres	%	Wooded & Other Farm Land Acres	%	Land Not in Farms Acres	%
QUEEN ANNES COUNTY										
1.	17,034	40	1,692	4	7,279	17	10,162	24	6,713	15
2.	16,418	50	1,510	5	5,902	18	7,026	22	1,784	5
3.	20,127	45	1,055	2	8,421	18	11,377	25	4,460	10
4.	9,338	44	473	2	4,831	23	4,544	22	1,934	9
5.	14,038	41	1,319	4	7,448	22	9,894	29	1,221	4
6.	17,438	50	947	3	7,505	21	7,977	23	1,333	3
7.	6,458	29	2,498	11	2,889	13	3,815	17	6,740	30
Total	100,851	43	9,494	4	44,275	19	54,795	23	24,185	11
ST. MARYS COUNTY										
1.	5,256	18	732	2	2,815	10	7,060	25	12,937	45
2.	3,562	17	1,488	7	2,971	14	7,773	37	5,326	25
3.	6,783	16	2,403	6	6,776	16	17,373	42	8,265	20
4.	5,589	17	3,088	9	4,783	14	9,238	28	10,582	32
5.	5,041	18	1,819	7	3,258	12	13,937	51	3,465	12
6.	3,987	12	2,012	6	2,763	9	14,072	44	9,166	29
7.	4,159	20	450	2	3,870	19	5,999	29	6,002	30
8.	4,867	15	766	2	1,854	6	11,003	34	13,510	43
9.	—	—	—	—	—	—	—	—	640	100
Total.	39,244	16	12,758	5	29,090	12	86,455	37	69,893	30
SOMERSET COUNTY										
1.	7,015	30	1,345	6	1,123	5	8,251	34	5,946	25
2.	1,449	14	131	1	139	1	1,286	13	7,235	71
3.	8,071	24	1,589	5	853	2	13,224	40	9,543	29
4.	7,934	30	2,446	9	806	3	7,754	30	7,300	28
5.	2,330	20	827	7	495	4	2,733	24	5,135	45
6.	1,633	12	687	5	187	1	1,637	12	9,296	70
8.	2,921	19	1,286	8	517	3	4,254	28	6,382	42
11.	208	3	25	/1	43	1	264	4	6,500	92
12.	136	2	24	/1	14	/1	58	1	6,168	97
13.	6,001	31	2,689	14	1,482	8	5,568	29	3,460	18
14.	147	6	99	4	--	-	30	1	2,284	89
15.	5,233	20	3,262	13	1,054	4	7,915	31	8,136	32
*Others	135	1	116	1	27	/1	120	1	22,002	97
Total..	43,213	20	14,526	7	6,740	3	53,094	24	99,387	46

*Districts - 7,9,10.

/1 -- Less than 1/2 of .1%

Land Area Classified According to Its Use -- Page 8.

	TOTAL LAND AREA									
	Farm Land In Crops		Idle or Fallow Farm Land		Farm Land In Pasture		Wooded & Other Farm Land		Land Not in Farms	
Dist.	Acres	%	Acres	%	Acres	%	Acres	%	Acres	%
TALBOT COUNTY										
1.	20,822	46	2,175	5	5,260	12	12,299	27	4,884	10
2.	7,822	35	1,553	7	2,941	13	5,275	24	4,809	21
3.	18,514	43	2,259	5	5,309	12	12,298	29	4,500	11
4.	26,652	53	1,162	2	7,555	15	11,721	24	2,830	6
5.	4,124	38	908	8	1,088	10	2,837	26	1,923	18
Total	77,934	46	8,057	4	22,153	13	44,430	26	18,946	11
WASHINGTON COUNTY										
1.	7,111	50	104	1	3,008	21	1,959	14	1,898	14
2.	5,366	52	708	7	2,403	23	1,150	12	613	6
3.	224	17	--	-	105	8	28	2	923	73
4.	9,451	57	216	1	2,066	12	2,810	17	2,097	13
5.	8,945	28	1,994	6	2,757	9	11,413	36	6,891	21
6.	6,874	51	216	2	1,922	14	2,155	16	2,273	17
7.	4,917	40	330	3	1,301	11	3,305	27	2,307	19
8.	4,175	31	810	6	1,938	14	2,042	15	4,475	34
9.	7,616	66	225	2	1,927	17	1,659	14	93	1
10.	7,080	65	115	1	1,615	15	1,386	13	684	6
11.	2,013	17	192	2	1,055	9	2,419	21	5,841	51
12.	7,087	62	123	1	2,050	18	1,212	10	1,048	9
13.	8,931	66	368	3	1,951	14	1,922	15	268	2
14.	3,592	40	242	3	506	6	985	11	3,635	40
15.	4,911	17	990	3	2,439	8	7,976	27	13,124	45
16.	6,060	45	224	2	2,163	16	1,212	9	3,781	28
17.	395	62	--	-	110	17	92	14	43	7
18.	5,696	52	468	4	1,793	16	1,285	12	1,638	16
19.	4,899	55	100	1	1,259	14	1,426	16	1,276	14
20.	6,832	53	711	6	3,585	28	1,456	11	216	2
21.	3,027	68	97	2	277	6	299	7	780	17
22.	1,625	42	122	3	541	14	440	12	1,112	29
23.	8,290	48	60	/1	2,401	14	1,536	9	4,993	29
24.	1,675	52	137	4	415	13	237	8	736	23
25.	2,432	47	142	3	529	10	274	5	1,743	35
26.	1,536	60	165	6	234	9	202	8	423	17
Total.	130,760	44	8,859	3	40,350	14	50,880	17	62,911	22

/1 -- Less than 1/2 of .1%

Land Area Classified According to Its Use -- Page 9.

	TOTAL LAND AREA									
	Farm Land In Crops		Idle or Fallow Farm Land		Farm Land In Pasture		Wooded & Other Farm Land		Land Not in Farms	
Dist.	Acres	%	Acres	%	Acres	%	Acres	%	Acres	%
WICOMICO COUNTY										
1.	4,535	16	1,906	7	1,285	5	7,367	27	12,427	45
2.	4,122	16	2,480	10	631	2	7,356	29	11,011	43
3.	2,273	14	2,064	12	94	1	2,098	13	10,111	61
4.	5,008	27	3,759	20	73	/1	5,216	28	4,504	25
5.	8,020	28	1,502	5	344	1	6,285	22	12,649	44
6.	3,496	26	1,682	12	636	5	3,792	28	3,834	29
7.	3,312	26	1,016	8	363	3	3,227	25	4,882	38
8.	4,595	22	2,353	11	202	1	6,521	31	7,449	35
9.	6,405	44	1,953	13	502	3	3,195	22	2,665	18
10.	993	17	724	12	50	1	1,386	24	2,607	46
11.	3,036	40	747	10	111	1	1,719	22	2,067	27
12.	1,668	13	723	6	14	/1	2,866	22	7,529	59
13.	1,379	43	28	1	4	/1	181	6	1,608	50
14.	4,995	28	2,060	11	650	4	4,206	23	6,009	34
15.	3,610	38	1,610	17	330	3	2,410	25	1,640	17
16.	1,381	24	425	7	65	1	744	13	3,145	55
Total..	58,828	25	25,032	10	5,354	2	58,569	24	94,137	39
WORCESTER COUNTY										
1.	7,252	26	1,833	7	1,546	6	8,263	30	8,626	31
2.	10,938	22	2,852	6	2,327	5	15,283	30	18,520	37
3.	7,410	18	3,579	8	1,360	3	10,415	25	19,476	46
4.	6,105	22	1,499	5	1,157	4	9,272	33	10,127	36
5.	6,532	26	3,195	13	767	3	5,537	22	8,929	36
6.	4,182	18	1,564	7	792	3	5,773	24	11,369	48
7.	4,802	11	2,504	6	466	1	10,339	23	26,689	59
8.	7,506	20	2,082	6	1,487	4	12,601	33	14,084	37
9.	11,528	30	4,787	13	2,740	7	8,147	22	10,558	28
Total	66,255	21	23,895	8	12,642	4	85,630	27	128,378	40
*State Total	1,758,057	28	369,478	6	752,752	12	1,490,704	24	1,891,409	30

*Figures do not include Baltimore City.

POPULATION STATISTICS FOR 1930

Dist.	Total Population Number	Total Population Per Sq. mile	Rural Farm Population Number	Rural Farm Population Per Sq. mile	Negro Population Number	Negro Population % of Total Population
ALLEGANY COUNTY						
1.	769	16	579	12	31	4.0
2.	704	13	440	8	-	-
3.	1130	18	793	13	-	-
4.	13980	373	20	5	190	1.4
5.	7292	1215	133	22	130	1.8
6.	7388	1478	5	1	347	4.7
7.	1795	64	326	12	-	-
8.	5368	767	54	8	13	.2
9.	1493	239	256	41	1	.1
10.	1908	318	59	10	2	.1
11.	985	985	-	-	42	4.3
12.	1384	923	16	11	3	.2
13.	3100	258	90	8	11	.4
14.	2059	2059	-	-	101	4.9
15.	2349	336	97	14	-	-
16.	1219	41	868	29	-	-
17.	475	59	90	11	-	-
18.	1833	262	12	2	-	-
19.	875	292	63	21	-	-
20.	1300	93	126	9	1	.1
21.	773	45	370	22	1	.1
22.	4731	676	185	26	227	4.8
23.	4060	1353	96	32	170	4.2
24.	1825	261	111	16	1	1
25.	665	190	20	6	-	-
26.	1945	648	39	13	125	6.4
27.	630	126	57	11	-	-
28.	1812	906	-	-	51	2.8
29.	2626	164	151	9	1	/1
30.	494	165	22	7	-	-
31.	671	52	78	6	-	-
32.	1187	594	4	2	6	.5
33.	273	12	70	3	-	-
Total..	79,098	191	5,230	13	1,454	1.8

/1 - Less than ½ of .1%

ANNE ARUNDEL COUNTY						
1.	3,507	49	2,117	29	1,603	45.7
2.	8,885	112	1,195	15	2,828	31.8
3.	7,611	86	3,024	34	2,335	30.7
4.	9,251	111	2,024	24	2,101	22.7
5.	9,452	278	919	27	1,166	12.3
6.	12,531	626	-	-	3,218	25.7
7.	1,593	100	568	36	646	40.6
8.	2,337	52	1,494	33	1,030	44.1
Total..	55,167	132	11,341	27	14,927	27.1

Population Statistics for 1930 -- Page 2.

Dist.	Total Population Number	Total Population Per Sq. Mile	Rural Farm Population Number	Rural Farm Population Per Sq. Mile	Negro Population Number	Negro Population % of Total Population
BALTIMORE COUNTY						
1.	17,055	711	463	19	1,499	8.8
2.	6,314	121	1,421	27	373	5.9
3.	6,409	229	1,200	43	506	7.9
4.	7,171	114	2,018	32	551	7.7
5.	1,960	42	1,550	33	39	2.0
6.	1,419	35	1,054	26	-	-
7.	3,164	55	1,525	27	268	8.5
8.	5,651	88	1,303	20	729	12.9
9.	13,697	507	861	32	1,352	9.9
10.	2,170	42	1,729	33	395	18.2
11.	6,388	97	3,305	50	500	7.8
12.	11,556	2,311	398	80	1,362	11.8
13.	10,466	870	348	29	294	2.8
14.	8,303	554	916	61	107	1.3
15.	22,842	415	1,123	20	3,789	16.6
Total...	124,565	205	19,214	32	11,764	9.4
CALVERT COUNTY						
1.	3,488	47	1,406	19	1,505	43.1
2.	2,892	45	2,100	33	1,302	45.0
3.	3,148	39	2,375	30	1,712	54.4
Total..	9,528	44	5,881	27	4,519	47.4
CAROLINE COUNTY						
1.	1,711	50	1,136	33	347	20.3
2.	2,570	55	1,245	26	338	13.2
3.	3,330	74	1,344	30	509	15.3
4.	2,291	48	1,265	26	509	22.2
5.	2,731	72	959	25	613	22.4
6.	1,502	38	999	25	511	34.0
7.	1,839	71	702	27	583	31.7
8.	1,413	34	1,159	28	267	18.9
Total...	17,387	54	8,809	28	3,677	21.2

Population Statistics for 1930 -- Page 3.

Dist.	Total Population Number	Total Population Per Sq.mile	Rural Farm Population Number	Rural Farm Population Per Sq. Mile	Negro Population Number	Negro Population % of Total Population
CARROLL COUNTY						
1.	2,503	68	1,141	31	29	1.2
2.	1,904	58	1,259	38	23	1.2
3.	1,707	45	1,171	31	-	-
4.	2,629	56	1,780	38	9	.3
5.	5,059	169	740	25	446	8.8
6.	3,069	63	1,914	39	-	-
7.	7,903	176	1,702	37	453	5.7
8.	2,404	78	1,048	34	-	-
9.	1,104	41	780	29	62	5.6
10.	1,082	52	595	28	6	5.5
11.	1,817	73	913	36	157	8.6
12.	1,537	192	272	34	189	12.3
13.	1,622	95	399	23	202	12.4
14.	1,638	42	1,111	28	186	11.4
Total...	35,978	80	14,825	33	1,762	4.9
CECIL COUNTY						
1.	1,994	29	946	14	489	24.5
2.	2,290	49	970	21	283	12.4
3.	5,814	138	1,027	24	508	8.7
4.	1,775	68	893	45	88	5.0
5.	3,526	48	948	13	275	7.8
6.	2,532	72	1,068	30	102	4.0
7.	6,067	253	679	28	668	11.0
8.	853	40	388	23	151	17.7
9.	976	44	670	30	31	3.2
Total...	25,827	73	7,589	23	2,595	10.0
CHARLES COUNTY						
1.	1,923	47	1,306	32	1,046	54.4
2.	792	19	743	18	416	52.5
3.	1,280	19	963	15	597	46.6
4.	1,644	27	1,492	25	771	46.9
5.	1,801	43	1,000	24	1,061	58.9
6.	1,729	30	1,338	23	617	35.7
7.	2,671	72	460	12	971	36.4
8.	1,896	27	1,764	26	864	45.6
9.	1,032	32	701	22	425	41.2
10.	1,398	44	797	25	724	51.8
Total..	16,166	34	10,564	22	7,492	46.3

Dist.	Total Population Number	Total Population Per Sq. mile	Rural Farm Population Number	Rural Farm Population Per Sq. mile	Negro Population Number	Negro Population % of Total Population
DORCHESTER COUNTY						
1.	1,671	31	940	17	342	20.5
2.	1,809	70	714	27	615	33.9
3.	1,255	36	558	16	511	40.7
4.	692	20	181	5	319	46.1
5.	1,269	20	218	4	447	35.2
6.	1,267	74	79	5	247	19.5
7.	9,987	238	595	14	2,629	26.3
8.	985	45	426	19	108	10.9
9.	730	23	319	10	298	40.8
10.	1,170	56	289	14	-	-
11.	388	9	263	6	113	29.1
12.	715	42	504	30	239	33.4
13.	730	16	511	11	335	45.9
14.	816	39	573	27	378	46.3
15.	2,138	63	1,094	32	763	35.7
16.	380	21	107	6	153	40.3
17.	574	17	454	13	333	58.0
18.	237	14	52	3	-	-
Total...	26,813	46	7,877	14	7,830	29.2
FREDERICK COUNTY						
1.	2,566	64	919	23	572	22.3
2.	15,882	794	719	36	1,675	10.5
3.	2,097	70	954	32	49	2.3
4.	893	45	636	32	1	1
5.	2,870	64	1,162	26	44	1.5
6.	1,120	47	821	34	-	-
7.	1,820	36	1,379	27	650	35.7
8.	1,169	53	547	25	203	17.4
9.	2,304	46	1,014	20	418	10.1
10.	1,436	52	850	30	-	-
11.	1,772	55	1,317	41	2	.1
12.	1,471	82	337	19	176	12.0
13.	862	48	548	30	114	13.2
14.	1,283	48	613	23	151	11.8
15.	2,835	71	603	15	1	/1
16.	1,253	52	864	36	-	-
17.	1,207	45	831	31	31	2.6
18.	1,172	47	604	24	124	10.6
19.	821	46	554	31	79	9.6
20.	1,122	37	718	24	12	1.1
21.	1,040	52	714	36	6	.6
22.	1,059	66	600	38	181	17.1
23.	700	54	530	41	13	1.9
24.	674	84	396	50	42	6.2
25.	3,671	1,836	-	-	131	3.6
26.	1,321	88	513	34	38	2.9
Total...	54,440	82	18,743	28	4,713	8.7

/1 - Less than ½ of .1%

Dist.	Total Population Number	Total Population Per Sq.mile	Rural Farm Population Number	Rural Farm Population Per Sq. mile	Negro Population Number	Negro Population Percent of Total Popu.
GARRETT COUNTY						
1.	1,030	19	806	15	-	-
2.	1,758	34	1,053	21	-	-
3.	2,160	33	1,288	20	-	-
4.	809	16	410	8	-	-
5.	1,138	23	815	17	-	-
6.	742	11	475	7	-	-
7.	1,839	71	496	19	7	0.4
8.	2,313	34	1,249	19	-	-
9.	670	23	531	18	-	-
10.	1,213	31	925	22	11	0.9
11.	301	12	279	11	-	-
12.	765	19	674	16	-	-
13.	1,967	104	216	11	-	-
14.	2,780	50	556	10	6	0.2
15.	423	17	414	16	-	-
Total...	19,908	30	10,187	15	24	0.1
HARFORD COUNTY						
1.	4,418	63	862	12	341	7.7
2.	6,959	67	2,620	13	1,227	17.6
3.	7,117	77	3,968	43	936	13.2
4.	4,253	47	3,548	39	428	10.1
5.	4,871	59	2,577	31	452	9.3
6.	3,985	1,992	-	-	639	16.0
Total...	31,603	72	13,575	31	4,023	12.7
HOWARD COUNTY						
1.	2,977	149	413	21	609	20.5
2.	3,558	111	907	28	584	16.4
3.	1,798	42	1,642	38	313	17.4
4.	2,645	45	1,865	32	654	24.7
5.	2,031	34	1,511	25	525	25.8
6.	3,160	81	1,017	26	585	18.5
Total...	16,169	64	7,355	29	3,270	20.2
KENT COUNTY						
1.	2,620	40	1,127	17	788	30.1
2.	1,952	29	1,072	16	673	34.5
3.	1,861	42	828	19	711	38.2
4.	2,991	374	159	20	862	28.8
5.	2,712	100	611	23	508	18.7
6.	1,161	28	477	11	508	43.8
7.	945	35	606	22	387	41.0
Total...	14,242	50	4,880	17	4,437	31.2

Population Statistics for 1930 -- Page 3.

Dist.	Total Population Number	Total Population Per Sq. mile	Rural Farm Population Number	Rural Farm Population Per Sq. mile	Negro Population Number	Negro Population % of Total Population
MONTGOMERY COUNTY						
1.	1,087	41	832	30	321	30.9
2.	1,692	47	854	24	380	22.[illegible]
3.	1,477	24	910	15	493	33.4
4.	4,684	123	957	25	1,170	25.[illegible]
5.	2,306	58	1,280	32	561	24.3
6.	1,566	36	784	18	613	39.1
7.	12,018	573	436	21	676	5.6
8.	2,492	59	1,404	36	1,113	44.7
9.	3,256	105	930	30	759	23.3
10.	1,135	44	329	13	2[illegible]	10.2
11.	1,673	49	969	28	413	23.3
12.	1,843	54	1,085	32	186	10.1
13.	13,377	372	424	12	1,167	8.7
Total...	49,206	102	11,3[illegible]	23	8,2[illegible]	16.8
RANGE CONGRESS COUNTY						
1.	1,521	72	302	1[illegible]	441	3[illegible].0
2.	4,318	617	143	20	357	[illegible].3
3.	1,798	69	847	32	859	47.2
4.	1,513	41	1,880	5[illegible]	7[illegible]	52.2
5.	2,297	48	957	20	545	23.7
6.	3,921	145	1,14[illegible]	42	691	17.[illegible]
7.	1,672	38	1,493	34	839	50.2
8.	1,108	36	1,926	63	619	55.[illegible]
9.	1,430	55	1,097	41	4[illegible]	31.[illegible]
10.	3,151	29	192	17	317	1[illegible].1
11.	1,897	42	1,107	25	1,030	54.[illegible]
12.	1,809	95	1,057	56	585	32.2
13.	1,816	35	879	40	832	45.[illegible]
14.	2,672	63	[illegible]	23	1,067	39.9
15.	1,510	50	1,233	41	696	46.1
16.	5,198	1733	2	1	264	5.1
17.	8,214	1027	325	41	[illegible]62	1[illegible].5
18.	7,022	780	365	40	2,028	2[illegible].9
19.	2,895	724	218	54	37	1.3
20.	1,135	114	57	6	239	2[illegible].5
21.	3,148	185	207	12	400	12.7
Total...	60,095	124	15,072	31	14,[illegible]25	25.3

Population Statistics for 1930 -- Page 7.

Dist.	Total Population Number	Total Population Per Sq. mile	Rural Farm Population Number	Rural Farm Population Per Sq. mile	Negro Population Number	Negro Population % of Total Population
QUEEN ANNES COUNTY						
1.	1,974	29	1,367	20	441	22.3
2.	1,726	34	1,041	20	447	25.9
3.	3,502	49	1,365	19	1,115	31.8
4.	2,196	66	676	20	697	31.7
5.	2,592	52	1,222	24	837	32.3
6.	1,391	25	1,029	19	464	33.4
7.	1,190	32	739	19	378	31.8
Total...	14,571	40	7,439	20	4,379	30.1
ST. MARYS COUNTY						
1.	2,043	45	844	19	1,080	45.1
2.	1,287	39	684	21	774	39.3
3.	3,071	47	1,585	24	2,103	30.5
4.	1,574	30	1,307	25	870	44.3
5.	1,801	42	1,173	27	1,113	36.5
6.	1,676	34	1,046	21	1,196	28.5
7.	1,977	62	981	31	1,320	32.9
8.	1,445	29	689	14	742	47.8
9.	315	315	-	-	261	17.1
Total...	15,189	41	8,309	22	9,450	36.8
SOMERSET COUNTY						
1.	2,084	56	877	24	913	43.8
2.	813	51	191	12	272	33.5
3.	2,506	48	1,362	26	1,264	50.4
4.	1,581	38	1,356	33	674	42.6
5.	1,171	65	480	27	461	39.4
6.	1,038	49	334	16	363	35.0
7.	4,084	681	-	-	938	23.0
8.	1,955	81	832	35	670	34.3
9.	603	100	31	5	320	53.1
10.	777	34	4	/1	-	-
11.	565	51	103	9	315	55.8
12.	1,768	177	46	5	183	10.4
13.	1,390	46	907	30	704	50.6
14.	1,237	309	62	16	307	24.8
15.	1,810	45	899	22	727	40.2
Total...	23,382	69	7,484	22	8,111	34.7

/1 - Less than $\frac{1}{2}$ of .1%

Dist.	Total Population Number	Total Population Per Sq. mile	Rural Farm Population Number	Rural Farm Population Per Sq. mile	Negro Population Number	Negro Population % of Total Population
TALBOT COUNTY						
1.	7,020	99	1,887	26	2,242	31.9
2.	3,307	94	734	21	1,113	33.7
3.	3,201	48	1,644	24	1.105	34.5
4.	2,788	36	1,860	24	963	34.5
5.	2,267	133	481	28	520	22.9
Total...	18,583	69	6,606	25	5,943	32.0
WASHINGTON COUNTY						
1.	1,755	68	542	21	71	4.0
2.	3,199	213	560	37	91	2.8
3.	5,661	2830	27	13	22	0.4
4.	2,008	72	746	27	42	2.1
5.	2,942	56	1,110	21	121	4.1
6.	2,151	102	765	36	7	.3
7.	1,894	100	773	41	6	.3
8.	1,447	69	743	35	8	.6
9.	1,284	80	696	44	-	-
10.	1,680	112	583	39	11	.6
11.	1,393	77	315	18	61	4.3
12.	1,195	66	659	37	3	.2
13.	1,685	94	1,052	58	4	.2
14.	1,567	112	411	29	-	-
15.	1,452	31	675	14	1	.1
16.	1,217	58	676	32	17	1.4
17.	4,641	4641	11	11	1	/1
18.	1,076	63	672	40	2	.2
19.	1,033	72	426	30	37	3.6
20.	824	41	445	22	3	.4
21.	5,465	781	255	36	797	14.6
22.	5,789	965	186	31	2	/1
23.	997	37	540	20	3	.3
24.	4,485	897	167	33	14	.3
25.	7,475	934	290	36	686	9.2
26.	1,567	522	112	37	-	-
Total...	65,882	143	13,437	29	2,010	3.0

/1 - Less than $\frac{1}{2}$ of .1%

Population Statistics for 1930 -- Page 9

Dist.	Total Population Number	Total Population Per Sq. mile	Rural Farm Population Number	Rural Farm Population Per Sq. mile	Negro Population Number	Negro Population % of Total Population
WICOMICO COUNTY						
1.	1,510	35	833	19	293	19.4
2.	947	24	545	14	392	41.4
3.	1,247	48	393	15	743	59.6
4.	1,635	56	861	30	129	7.9
5.	5,759	128	1,363	30	746	13.0
6.	774	37	575	27	47	6.1
7.	974	49	741	37	313	32.1
8.	1,051	32	818	25	241	22.9
9.	4,596	200	1,303	57	1,757	38.2
10.	1,218	135	244	27	368	30.2
11.	1,797	150	294	24	130	7.2
12.	1,631	82	391	20	839	51.4
13.	4,319	864	89	18	149	3.4
14.	1,059	38	806	29	4	0.4
15.	1,315	88	423	28	206	15.7
16.	1,397	155	309	34	393	28.1
Total...	31,229	83	9,988	26	6,750	21.6
WORCESTER COUNTY						
1.	4,566	106	1,506	33	1,545	33.8
2.	3,489	45	1,487	19	1,521	43.6
3 & 10	4,592	70	1,499	23	1,263	27.5
4.	1,101	25	797	18	434	39.4
5.	1,374	35	1,134	29	199	14.5
6.	583	16	527	14	229	39.3
7.	974	14	816	12	166	17.0
8.	2,439	41	1,130	19	904	37.1
9.	2,506	42	1,565	26	451	18.0
Total...	21,624	44	10,461	21	6,712	31.0
Baltimore City...	804,874	10,188	--	--	142,106	17.6
State...	1,631,526	165	236,172	24	276,379	16.9

NUMBER AND SIZE OF FARMS

Dist.	Number of Farms	Average size of Farms	Acres in crops per farm
ALLEGANY COUNTY			
1.	113	107	18
2.	86	241	29
3.	136	167	25
4.	6	22	10
5.	23	125	27
7.	65	170	36
8.	10	120	30
9.	49	79	18
10.	12	112	24
12.	6	76	31
13.	21	139	39
15.	18	231	46
16.	163	93	15
17.	19	160	24
18.	9	220	50
19.	10	143	38
20.	21	119	22
21.	77	130	20
22.	34	118	23
23.	20	82	19
24.	23	149	31
25.	4	238	70
26.	7	158	20
27.	11	102	21
29.	41	90	12
31.	13	116	22
33.	16	230	62
*Other	7	90	39
Total	1,020	137	24

*Districts 6,11,14,28,30,32

Dist.	Number of Farms	Average size of Farms	Acres in crops per farm
ANNE ARUNDEL COUNTY			
1.	271	129	34
2.	190	112	31
3.	364	59	17
4.	326	79	24
7.	79	56	18
8.	246	99	27
*Others	79	79	43
Total	1,555	88	26

*Districts 5 & 6

Dist.	Number of Farms	Averages size of Farms	Acres in crops per farm
BALTIMORE COUNTY			
1.	85	57	31
2.	292	63	3
3.	131	56	22
4.	403	86	35
5.	336	81	43
6.	197	84	40
7.	340	92	40
8.	190	125	61
9.	159	52	20
10.	276	93	42
11.	533	58	26
12.	42	44	37
13.	52	28	16
14.	164	32	12
15.	213	60	33
Total...	3,413	73	34
CALVERT COUNTY			
1.	258	127	17
2.	446	89	16
3.	399	98	18
Total...	1,103	101	17
CAROLINE COUNTY			
1.	265	74	25
2.	219	112	49
3.	321	77	32
4.	280	82	37
5.	217	74	32
6.	191	110	56
7.	142	106	64
8.	287	83	31
Total..	1,922	87	38

Number and Size of Farms -- 2.

Dist.	Number of Farms	Average Size of Farms	Acres in crops per farm
CARROLL COUNTY			
1.	261	92	64
2.	248	82	56
3.	255	86	58
4.	386	64	31
5.	181	91	40
6.	397	71	45
7.	358	78	48
8.	233	72	45
9.	175	86	45
10.	122	108	72
11.	178	85	58
12.	49	92	64
13.	98	97	48
14.	208	103	50
Total..	3,149	82	49
CECIL COUNTY			
1.	186	205	103
2.	166	155	65
3.	214	88	35
4.	192	86	39
5.	178	112	31
6.	183	97	48
7.	91	185	52
8.	72	94	30
9.	142	104	56
Total..	1,424	123	52

Dist.	Number of Farms	Average size of farms	Acres in crops per farm
CHARLES COUNTY			
1.	168	142	25
2.	119	138	28
3.	207	116	15
4.	217	143	31
5.	119	146	42
6.	212	113	24
7.	84	114	14
8.	263	133	27
9.	120	126	19
10.	83	102	12
Total..	1,592	129	24
DORCHESTER COUNTY			
1.	213	97	41
2.	142	90	42
3.	105	149	53
4.	30	141	46
5.	50	116	30
6.	18	141	18
7.	118	120	58
8.	106	100	40
9.	67	149	71
10.	56	39	8
11.	42	138	37
12.	116	79	37
13.	93	124	51
14.	127	97	32
15.	185	99	52
16.	24	151	58
17.	81	150	62
18.	20	16	6
Total..	1,598	108	44

Dist.	Number of Farms	Average Size of Farms	Acres in crops per farm
FREDERICK COUNTY			
1.	129	173	111
2.	108	122	90
3.	186	95	61
4.	139	88	51
5.	215	108	63
6.	148	79	33
7.	209	132	66
8.	107	124	75
9.	199	129	63
10.	158	83	25
11.	162	96	59
13.	123	96	56
14.	100	130	75
15.	121	114	51
16.	177	79	40
17.	169	89	59
18.	120	116	61
19.	108	106	69
20.	150	76	45
21.	160	57	33
22.	119	84	57
23.	98	82	52
24.	73	48	26
26.	94	104	80
*Others	62	156	92
Total	3,434	102	58

*Districts 12, 25

Dist.	Number of Farms	Average Size of Farms	Acres in crops per farm
GARRETT COUNTY			
1.	161	111	25
2.	189	130	29
3.	223	133	34
4.	76	139	28
5.	148	157	46
6.	85	161	41
7.	100	106	39
8.	216	149	34
9.	92	97	28
10.	169	121	27
11.	59	151	33
12.	107	132	29
13.	42	125	19
14.	106	115	34
15.	66	134	31
Total..	1,839	131	32

Dist.	Number of Farms	Average size of Farms	Acres in crops per Farm
HARFORD COUNTY			
1.	152	104	32
2.	398	108	46
3.	619	85	32
4.	643	89	41
5.	444	96	37
6.	4	214	32
Total..	2,260	94	38
HOWARD COUNTY			
1.	72	85	39
2.	87	154	65
3.	221	113	51
4.	286	126	62
5.	226	134	57
6.	206	86	35
Total..	1,098	117	52
KENT COUNTY			
1.	237	155	74
2.	202	190	116
3.	186	140	64
4.	23	202	103
5.	100	153	65
6.	102	198	93
7.	121	148	71
Total..	971	164	81
MONTGOMERY COUNTY			
1.	167	153	69
2.	153	138	56
3.	160	221	77
4.	136	123	50
5.	211	81	30
6.	133	160	74
7.	54	58	14
8.	208	116	48
9.	155	115	47
10.	56	175	44
11.	187	112	49
12.	244	79	35
13.	107	60	18
Total..	1,971	121	49

Number and Size of Farms -- 4.

Dist.	Number of Farms	Average Size of Farms	Acres in crops per farm
PRINCE GEORGES COUNTY			
1.	60	97	27
2.	18	29	3
3.	119	121	29
4.	207	98	23
5.	170	119	24
6.	174	41	14
7.	198	134	37
8.	191	85	14
9.	172	79	17
10.	38	117	22
11.	191	110	19
12.	132	54	19
13.	95	107	40
14.	207	73	14
15.	122	132	36
17.	42	62	26
18.	78	29	14
20.	18	72	10
21.	40	54	20
*Others	19	21	9
Total..	2,291	91	22
*Districts 16 & 19			
QUEEN ANNES COUNTY			
1.	293	123	58
2.	203	151	80
3.	260	158	77
4.	149	129	63
5.	200	163	70
6.	198	171	88
7.	159	98	41
Total..	1,464	143	69

Dist.	Number of Farms	Average Size of Farms	Acres in crops per Farm
ST. MARYS COUNTY			
1.	148	107	36
2.	132	120	27
3.	276	121	25
4.	185	123	30
5.	185	130	27
6.	168	136	24
7.	185	78	22
8.	113	164	43
Total	1,392	120	28
SOMERSET COUNTY			
1.	177	100	39
2.	46	65	32
3.	307	77	26
4.	211	90	38
5.	114	56	20
6.	91	46	18
8.	151	59	19
11.	21	26	10
12.	14	17	10
13.	190	83	32
14.	16	17	9
15.	212	82	25
*Others	11	36	12
Total..	1,561	75	28
*Districts 7, 9, 10.			
TALBOT COUNTY			
1.	257	158	81
2.	170	103	46
3.	284	135	65
4.	316	149	84
5.	86	104	48
Total..	1,113	137	70

Number and Size of Farms -- 5.

Dist.	Number of Farms	Average Size of Farms	Acres in crops per Farm
WASHINGTON COUNTY			
1.	88	138	81
2.	98	98	55
3.	5	71	45
4.	112	130	84
5.	181	139	49
6.	176	63	39
7.	176	56	28
8.	165	54	25
9.	135	85	56
10.	107	95	66
11.	59	96	34
12.	119	88	60
13.	195	68	46
14.	78	68	46
15.	101	162	49
16.	136	71	45
17.	6	100	66
18.	132	70	81
19.	96	80	51
20.	74	170	92
21.	45	82	67
22.	42	64	39
23.	98	125	85
24.	35	70	40
25.	65	52	37
26.	28	76	55
Total..	2,552	90	51

Dist.	Number of Farms	Average Size of Farms	Acres in crops Per Farm
WICOMICO COUNTY			
1.	212	71	21
2.	118	124	35
3.	93	70	24
4.	197	71	25
5.	287	56	28
6.	124	77	28
7.	131	60	25
8.	193	68	24
9.	248	49	26
10.	41	77	24
11.	74	76	41
12.	95	55	18
13.	22	72	63
14.	188	63	26
15.	101	79	36
16.	69	38	20
Total..	2,193	67	27
WORCESTER COUNTY			
1.	262	72	28
2.	287	109	38
3 & 10.	330	69	22
4.	173	104	35
5.	276	58	24
6.	109	113	38
7.	167	108	29
8.	268	88	28
9.	318	86	36
Total..	2,190	86	30
*State	43,105	101	41

*Does not include Baltimore City

VALUE OF FARM LAND AND BUILDINGS - 1930

Dist.	Value of Land and Buildings Total	Value of Land and Buildings Per Acre	Value of Land Total	Value of Land Per Acre
ALLEGANY COUNTY				
1.	$ 249,742	$ 21	$ 140,567	$12
2.	391,523	19	305,288	15
3.	591,050	26	360,920	6
4.	41,700	323	23,975	186
5.	317,100	111	196,400	69
7.	577,900	52	352,850	32
8.	53,500	45	28,000	23
9.	92,900	24	46,175	12
10.	34,600	26	16,550	12
12.	49,800	109	24,500	54
13.	131,500	45	52,300	18
15.	46,250	11	25,950	6
16.	793,900	53	445,241	30
17.	48,890	16	27,215	9
18.	37,880	19	21,950	11
19.	44,243	31	20,543	14
20.	102,650	41	57,000	23
21.	426,150	42	226,925	23
22.	286,450	72	187,000	47
23.	210,975	128	124,975	76
24.	71,633	21	37,928	11
25.	20,500	22	9,600	10
26.	19,842	18	10,037	9
27.	30,700	27	14,850	13
29.	314,765	86	168,815	46
31.	73,300	49	43,100	29
33.	167,008	45	114,788	31
*Others	45,800	72	32,800	52
Total	$5,272,251	$ 38	$3,116,242	$22

*Districts 6,11,14,28,30,32.

Dist.	Value of Land and Buildings Total	Value of Land and Buildings Per Acre	Value of Land Total	Value of Land Per Acre
ANNE ARUNDEL COUNTY				
1.	$2,275,265	$65	$1,211,570	$35
2.	3,317,388	156	2,172,614	102
3.	3,186,381	150	1,833,964	86
4.	2,945,522	114	1,615,788	63
7.	562,500	128	307,125	70
8.	1,314,100	54	857,175	35
*Others	889,480	141	520,640	83
Total	$14,490,636	$ 105	$ 8,518,876	$62

*Districts 5 & 6.

Dist.	Value of Land and Buildings Total	Value of Land and Buildings Per Acre	Value of Land Total	Value of Land Per Acre
BALTIMORE COUNTY				
1.	$ 2,731,738	$557	$ 1,530,988	$318
2.	2,777,785	152	1,407,710	77
3.	5,128,570	696	2,153,255	292
4.	5,880,033	170	3,172,890	92
5.	1,842,650	68	914,735	34
6.	1,018,315	62	512,240	31
7.	2,604,175	84	990,150	32
8.	4,967,638	210	2,464,858	104
9.	4,523,724	551	2,741,579	334
10.	3,684,212	144	1,761,447	69
11.	5,483,925	178	2,570,430	83
12.	1,520,710	818	1,271,425	684
13.	871,050	593	572,900	390
14.	2,054,473	395	1,225,665	235
15.	3,237,268	252	2,103,563	164
Total	$48,326,266	$194	$25,393,835	$ 102
CALVERT COUNTY				
1.	$ 1,659,244	$ 51	$ 1,096,594	$ 33
2.	2,068,450	52	1,054,945	26
3.	1,803,720	46	831,195	21
Total	$ 5,531,414	$ 50	$ 2,982,734	$ 27
CAROLINE COUNTY				
1.	$ 737,800	$ 38	$ 417,600	$ 21
2.	1,241,905	51	537,780	22
3.	1,296,850	53	669,700	27
4.	1,484,340	65	893,990	39
5.	799,675	50	435,325	27
6.	1,259,850	60	761,560	36
7.	1,053,475	70	607,675	40
8.	994,625	42	565,025	24
Total	$8,868,520	$ 53	$4,888,655	$ 29

Value of Farm Land and Buildings - 1930 -- Page 2

Dist.	Value of Land and Buildings Total	Value of Land and Buildings Per Acre	Value of Land Total	Value of Land Per Acre
CARROLL COUNTY				
1.	$ 1,537,300	$ 64	$ 793,425	$ 33
2.	1,466,100	72	688,840	34
3.	1,245,251	57	745,659	34
4.	2,104,195	86	1,119,880	46
5.	1,409,987	86	622,276	38
6.	1,994,062	70	858,187	30
7.	2,561,544	91	1,126,899	40
8.	1,341,668	80	698,096	42
9.	800,875	53	413,050	27
10.	875,450	66	371,150	28
11.	1,265,462	83	680,012	45
12.	451,477	100	219,652	49
13.	682,220	72	292,795	31
14.	1,304,875	61	641,585	30
Total	$19,040,466	$ 73	$9,271,506	$ 36
CECIL COUNTY				
1.	2,145,450	56	1,092,250	29
2.	1,729,788	67	1,018,435	40
3.	1,707,900	91	746,400	40
4.	1,509,000	91	632,500	38
5.	1,756,585	88	804,060	40
6.	1,671,005	94	556,805	31
7.	1,201,800	72	568,825	34
8.	420,400	62	188,800	28
9.	1,128,300	77	438,135	30
Total	$ 13,270,228	$ 76	$6,046,210	$ 34

Dist.	Value of Land and Buildings Total	Value of Land and Buildings Per Acre	Value of Land Total	Value of Land Per Acre
CHARLES COUNTY				
1.	$ 959,930	$ 40	$ 534,460	$22
2.	508,175	31	329,275	20
3.	658,108	27	373,713	16
4.	1,204,165	39	650,515	21
5.	1,610,250	93	1, 192,150	69
6.	976,650	41	534,520	22
7.	341,100	36	189,450	20
8.	1,295,070	37	698,645	20
9.	516,750	34	307,510	20
10.	244,150	29	136,730	16
Total	$ 8,314,348	$ 41	$4,946,968	$24
DORCHESTER COUNTY				
1.	874,050	43	497,900	24
2.	991,800	78	683,200	54
3.	553,695	35	389,345	25
4.	256,500	60	165,800	39
5.	196,850	34	128,950	22
6.	89,240	35	49,140	19
7.	1,640,199	116	982,150	70
8.	954,500	90	632,650	60
9.	463,400	46	312,550	31
10.	122,775	56	56,625	26
11.	221,400	38	166,300	29
12.	541,600	59	304,175	33
13.	647,050	53	509,000	42
14.	907,250	74	595,150	48
15.	1,285,080	70	809,910	44
16.	191,600	53	126,600	35
17.	550,150	45	408,430	34
18.	26,475	46	13,275	42
Total	$10,513,614	$ 61	$6,831,150	$40

Dist.	Value of Land and Buildings Total	Value of Land and Buildings Per Acre	Value of Land Total	Value of Land Per Acre
FREDERICK COUNTY				
1.	$ 1,852,900	$ 83	$ 893,400	$40
2.	2,078,240	158	1,265,012	96
3.	1,527,850	87	843,050	48
4.	714,587	59	207,587	17
5.	1,342,600	58	676,622	29
6.	676,150	58	345,850	30
7.	1,546,990	56	870,830	31
8.	610,350	46	262,775	20
9.	1,622,560	63	789,625	31
10.	583,725	45	288,875	22
11.	1,140,415	73	751,840	48
13.	920,490	78	398,552	34
14.	1,038,690	79	507,215	39
15.	898,237	65	405,387	29
16.	899,798	64	422,943	30
17.	945,054	63	464,004	31
18.	678,000	49	328,700	24
19.	886,895	77	483,620	42
20.	996,720	88	514,870	45
21.	920,215	101	493,770	54
22.	909,550	91	410,100	41
23.	722,455	90	432,996	54
24.	541,565	155	301,840	86
26.	1,169,630,	120	474,190	63
*Others	811,300	84	613,080	49
Total	$26,034,966	$ 76	$13,446,733	$38

*Districts 12 and 25

Dist.	Value of Land and Buildings Total	Value of Land and Buildings Per Acre	Value of Land Total	Value of Land Per Acre
GARRETT COUNTY				
1.	459,270	26	267,865	15
2.	643,410	26	329,410	13
3.	1,176,321	40	686,021	23
4.	161,788	15	96,838	9
5.	697,700	30	376,200	16
6.	417,175	30	254,100	19
7.	785,300	74	465,650	44
8.	1,199,090	37	767,590	24
9.	296,475	33	163,925	18
10.	721,740	35	458,547	22
11.	160,150	18	109,600	12
12.	350,713	25	207,213	15
13.	142,320	27	84,370	16
14.	685,600	56	380,700	31
15.	196,400	22	118,200	13
Total	$8,093,452	$34	$4,766,229	$20

Dist.	Value of Land and Buildings Total	Value of Land and Buildings Per Acre	Value of Land Total	Value of Land Per Acre
HARFORD COUNTY				
1.	$ 1,585,953	$101	$ 821,718	$52
2.	4,614,419	107	2,191,767	51
3.	6,653,225	126	3,000,825	57
4.	5,345,124	94	2,318,965	41
5.	3,716,609	87	1,726,722	40
6.	82,700	96	57,700	67
Total	$21,998,030	$104	$10,117,697	$48
HOWARD COUNTY				
1.	805,000	131	305,215	50
2.	1,702,720	127	753,820	56
3.	2,127,650	85	866,305	35
4.	2,685,866	74	1,352,741	37
5.	2,331,900	77	1,015,386	33
6.	2,020,235	114	833,365	47
Total	$11,673,371	$ 91	$ 5,126,832	$40
KENT COUNTY				
1.	1,803,820	49	1,217,520	33
2.	2,510,095	65	1,583,575	41
3.	1,885,660	72	1,218,095	47
4.	300,000	64	183,300	39
5.	999,505	65	586,130	38
6.	947,000	47	494,950	24
7.	1,100,985	61	705,585	39
Total	$ 9,547,065	$60	$5,989,155	$38
MONTGOMERY COUNTY				
1.	1,839,922	72	1,102,227	43
2.	1,687,740	80	902,365	43
3.	2,119,740	60	1,204,065	34
4.	2,843,000	170	1,968,700	118
5.	2,901,166	170	1,861,050	109
6.	2,067,819	97	1,325,727	62
7.	4,510,915	1446	3,740,215	1199
8.	3,158,342	131	1,736,685	72
9.	2,314,925	130	1,375,125	77
10.	3,990,000	406	3,483,000	354
11.	1,714,000	81	885,675	42
12.	1,369,650	71	652,850	34
13.	4,438,500	688	3,411,825	529
Total	$34,955,719	$ 151	$23,649,509	$99

Dist.	Value of Land and Buildings Total	Value of Land and Buildings Per Acre	Value of Land Total	Value of Land Per Acre
PRINCE GEORGES COUNTY				
1.	$1,368,362	$235	$656,262	$113
2.	138,373	264	73,773	140
3.	996,340	69	623,215	43
4.	1,063,038	53	583,543	29
5.	1,285,450	63	834,110	41
6.	2,026,550	286	1,229,975	174
7.	2,256,155	85	1,355,935	51
8.	953,808	59	443,628	27
9.	1,163,470	85	725,770	53
10.	573,488	128	318,688	71
11.	1,362,252	65	799,430	38
12.	1,546,250	217	993,435	140
13.	1,213,600	119	806,600	79
14.	1,827,780	121	807,130	58
15.	1,497,925	93	920,200	57
17.	1,053,500	403	735,050	281
18.	677,200	303	429,260	192
20.	144,600	377	74,430	57
21.	599,440	277	356,045	164
*Others	223,950	558	91,110	227
Total	$21,971,531	$108	$12,857,589	$62
*Districts 16 & 19.				
QUEEN ANNES COUNTY				
1.	$1,715,935	$47	$736,600	$20
2.	1,784,450	58	964,300	31
3.	4,543,050	111	1,736,075	42
4.	1,363,300	71	884,495	46
5.	2,433,926	74	1,533,900	47
6.	1,472,635	43	938,085	28
7.	724,475	46	385,280	25
Total.	$14,037,771	$67	$7,178,735	$34

Dist.	Value of Land and Buildings Total	Value of Land and Buildings Per Acre	Value of Land Total	Value of Land Per Acre
ST. MARYS COUNTY				
1.	$1,345,350	$85	$922,225	$58
4.	819,068	52	437,413	28
3.	1,732,250	52	1,002,685	30
4.	917,609	40	562,384	25
5.	1,076,150	45	596,550	25
6.	832,750	36	491,130	22
7.	984,576	68	562,451	39
8.	1,054,899	57	628,119	34
Total..	$8,762,652	$52	$5,202,957	$31
SOMERSET COUNTY				
1.	1,471,350	83	843,400	48
2.	166,400	55	80,400	27
3.	1,442,200	61	748,030	32
4.	1,089,400	58	636,825	34
5.	518,500	81	271,075	42
6.	335,165	81	150,225	36
8.	552,545	62	310,685	35
11.	36,100	67	16,065	30
12.	64,300	277	36,900	159
13.	1,042,350	66	626,225	24
14.	54,700	198	28,900	105
15.	933,948	53	546,383	31
*Others	57,000	143	28,400	71
Total	$7,763,958	$66	$4,323,513	$37
*Districts 7,9 & 10.				
TALBOT COUNTY				
1.	4,064,510	100	2,193,761	54
2.	2,118,750	120	1,417,150	81
3.	3,525,560	92	2,312,700	60
4.	3,055,600	65	1,902,350	40
5.	1,132,895	126	634,060	71
Total	$13,897,315	$91	$8,460,021	$55

Dist.	Value of Land and Buildings Total	Value of Land and Buildings Per Acre	Value of Land Total	Value of Land Per Acre
WASHINGTON COUNTY				
1.	$ 644,229	$53	$332,179	$ 27
2.	668,270	69	362,600	38
3.	63,200	177	38,700	108
4.	853,499	59	468,759	32
5.	1,589,799	63	1,043,170	42
6.	1,247,606	112	590,586	53
7.	990,770	101	596,810	61
8.	770,570	86	329,090	37
9.	1,079,250	94	579,550	51
10.	1,077,975	106	563,035	55
11.	325,492	57	176,592	31
12.	832,445	79	364,345	35
13.	1,352,075	103	666,900	51
14.	579,410	109	279,335	52
15.	646,075	40	399,600	24
16.	838,975	87	375,550	39
17.	147,900	248	129,600	217
18.	866,710	94	408,410	44
19.	614,540	77	271,065	35
20.	794,085	63	356,035	28
21.	500,000	135	266,700	72
22.	376,250	138	229,820	84
23.	815,280	66	366,880	30
24.	336,850	137	221,200	90
25.	698,200	207	395,400	117
26.	271,230	127	149,830	70
Total	$18,980,685	$82	$9,961,741	$43

Dist.	Value of Land and Buildings Total	Value of Land and Buildings Per Acre	Value of Land Total	Value of Land Per Acre
WICOMICO COUNTY				
1.	$795,770	$53	$440,470	$29
2.	588,900	40	353,875	24
3.	335,350	51	202,325	31
4.	494,370	35	290,895	21
5.	1,693,025	105	925,300	57
6.	364,700	38	222,575	23
7.	505,041	64	310,641	39
8.	578,100	42	284,750	21
9.	1,961,849	163	1,099,299	91
10.	128,950	41	70,960	22
11.	479,540	85	294,685	52
12.	371,300	70	210,700	40
13.	384,900	242	278,000	175
14.	478,900	40	277,700	23
15.	761,900	96	500,050	63
16.	241,200	92	105,065	40
Total	$10,163,795	$69	$5,867,290	$40
WORCESTER COUNTY				
1.	1,294,220	69	733,045	39
2.	1,998,000	64	1,299,391	41
3 & 10	1,274,760	56	669,385	29
4.	887,093	49	529,628	29
5.	884,209	55	451,559	28
6.	455,851	37	240,101	20
7.	583,225	32	335,049	18
8.	1,182,550	50	677,550	29
9.	1,472,550	54	988,000	36
Total..	$10,032,458	$53	$5,923,708	$31
State Total	$351,540,511	$80	$194,867,885	$45

CLASSIFICATION OF FORESTED LANDS

COUNTY	ACRES OF FOREST LAND			PERCENT OF		
				Total Land Area		Land Not in Farms--
	Total	In Farms	Not in Farms	Wooded	Not in Farms and Wooded	Wooded
Allegany	163,832	71,800	92,032	62	35	73
Anne Arundel	92,266	37,149	55,117	34	21	42
Baltimore	103,515	55,287	48,228	27	12	35
Calvert	62,390	43,788	18,602	45	13	67
Caroline	62,834	47,960	14,874	31	7	41
Carroll	39,292	37,382	1,910	14	1	7
Cecil	53,543	38,730	14,813	24	6	28
Charles	171,547	98,432	73,115	56	24	72
Dorchester	138,291	53,769	84,522	38	23	43
Frederick	91,117	49,043	42,074	21	10	57
Garrett	274,483	110,224	164,259	64	38	88
Harford	81,872	50,807	31,065	29	11	44
Howard	38,644	25,932	12,712	24	7	38
Kent	33,776	22,832	10,934	19	6	52
Montgomery	68,821	45,878	22,943	22	7	32
Prince Georges	127,200	62,009	65,191	41	21	63
Queen Annes	59,270	42,629	16,641	25	7	69
St. Marys	119,080	80,898	38,182	50	16	55
Somerset	68,387	41,140	27,247	32	12	27
Talbot	45,822	34,317	11,505	27	7	61
Washington	72,274	34,895	37,379	25	13	59
Wicomico	111,608	51,167	60,441	46	25	64
Worcester	148,182	76,371	71,811	47	23	56
Total State..	2,228,046	1,212,439	1,015,597	36	16	54

NUMBER AND ACREAGE OF LARGE FARMS

COUNTY	Farms over 1000 Acres		Farms over 500 Acres		Farms over 175 Acres	
	Number	Acreage	Number	Acreage	Number	Acreage
Allegany	6	10,449	31	26,025	256	85,339
Anne Arundel	2	2,800	17	12,871	186	55,221
Baltimore	4	5,306	22	17,259	313	90,176
Calvert	3	4,984	9	8,322	169	47,248
Caroline	-	--	10	6,618	211	54,430
Carroll	1	1,255	4	2,955	257	59,756
Cecil	2	8,359	19	18,505	320	96,729
Charles	5	6,149	37	26,409	392	119,872
Dorchester	-	--	16	9,983	282	75,475
Frederick	-	--	11	6,650	568	133,425
Garrett	6	8,688	35	26,856	427	126,725
Harford	6	9,309	22	19,360	257	75,486
Howard	2	3,290	11	9,245	215	63,042
Kent	1	1,000	17	10,690	452	123,992
Montgomery	4	7,496	33	24,670	485	145,511
Prince Georges	5	6,938	29	21,899	317	96,908
Queen Annes	4	5,550	24	17,578	506	139,892
St. Marys	5	5,857	27	19,684	292	87,206
Somerset	2	3,740	13	11,001	163	47,863
Talbot	4	5,507	27	20,370	318	94,556
Washington	-	--	16	10,413	340	84,967
Wicomico	2	2,269	7	5,166	113	31,306
Worcester	6	8,561	22	19,357	238	73,432
State Total	70	107,507	459	351,886	7,077	2,008,532

CROP LAND IN LARGE FARMS

COUNTY	Farms Over 1000 Acres		Farms Over 300 Acres		Farms Over 175 Acres	
	Acres In Crops	Percent In Crops	Acres In Crops	Percent In Crops	Acres In Crops	Percent In Crops
Allegany	1,045	10	3,069	12	11,808	14
Anne Arundel	623	22	2,623	20	12,916	23
Baltimore	992	18	5,539	32	35,225	39
Calvert	178	4	544	6	4,884	10
Caroline	-	-	2,407	36	22,767	42
Carroll	716	57	1,473	50	32,113	54
Cecil	712	8	3,862	21	38,065	39
Charles	493	8	2,327	9	18,420	15
Dorchester	-	-	2,040	20	26,791	36
Frederick	-	-	2,482	37	74,112	56
Garrett	936	11	3,309	12	24,375	19
Harford	4,167	45	8,446	44	28,445	38
Howard	1,049	32	3,298	36	25,915	41
Kent	390	39	4,015	38	61,368	49
Montgomery	948	13	6,635	27	55,335	38
Prince Georges	1,300	19	3,667	17	17,581	18
Queen Annes	1,114	20	5,904	34	66,799	48
St. Marys	844	14	2,469	12	14,933	17
Somerset	340	9	1,454	13	12,491	26
Talbot	3,289	60	10,488	51	48,308	51
Washington	-	-	3,696	35	42,818	50
Wicomico	1,127	50	2,052	40	8,226	26
Worcester	3,092	36	5,438	28	18,967	26
State Total..	23,355	22	87,237	25	702,662	35

EXCESS ACREAGE IN LARGE FARMS*

COUNTY	Farms Over 1000 Acres		Farms Over 500 Acres		Farms Over 175 Acres	
	Excess Acres	% of Total Land Area	Excess Acres	% of Total Land Area	Excess Acres	% of Total Land Area
Allegany	9,399	4	20,600	8	40,539	15
Anne Arundel	2,450	1	9,896	4	22,671	8
Baltimore	4,606	1	13,409	3	35,401	9
Calvert	4,459	3	6,747	5	17,673	13
Caroline	-	-	4,868	2	17,505	8
Carroll	1,080	/1	2,255	1	14,781	5
Cecil	8,009	4	15,180	7	40,729	18
Charles	5,274	2	19,934	6	51,272	17
Dorchester	-	-	7,183	2	26,100	7
Frederick	-	-	4,725	1	34,025	8
Garrett	7,638	2	20,731	5	52,000	12
Harford	8,259	3	15,510	5	30,511	11
Howard	2,940	2	7,320	4	25,417	16
Kent	825	/1	7,715	4	44,892	25
Montgomery	6,796	2	18,895	6	60,636	20
Prince Georges	6,063	2	16,824	5	41,433	13
Queen Annes	4,850	2	13,378	6	51,342	22
St. Marys	4,982	2	14,959	6	36,106	15
Somerset	3,390	2	8,726	4	19,338	9
Talbot	4,807	3	15,645	9	38,906	23
Washington	-	-	7,613	2	25,467	9
Wicomico	1,919	1	3,941	2	11,531	5
Worcester	7,511	2	15,507	5	31,782	10
State Total	95,257	2	271,561	4	770,057	12

*Excess Acreage -- The amount of land available for closer settlement if all farms over 1,000, 500 and 175 acres respectively are reduced to an acreage of 175.

/1 -- Less than 1/2 of .1%

FARM TENANCY

County.	Operated by Tenants		Operated by Colored Tenants	
	Percent of Farms.	Percent of Farm Land	Percent of Farms.	Percent of Farm Land.
Allegany	151	172	1	4
Anne Arundel	260	339	94	108
Baltimore	122	167	4	1
Calvert	437	472	220	198
Caroline	339	444	72	69
Carroll	199	275	2	1
Cecil	251	370	10	5
Charles	366	405	175	170
Dorchester	391	465	115	114
Frederick	269	384	7	7
Garrett	108	107	0	0
Harford	159	198	10	5
Howard	136	171	15	8
Kent	469	606	54	28
Montgomery	193	278	22	20
Prince Georges	321	400	134	162
Queen Annes	421	556	84	44
St. Marys	420	445	113	82
Somerset	195	214	58	39
Talbot	368	449	81	44
Washington	280	423	3	4
Wicomico	262	280	54	43
Worcester	327	379	113	113
State	265	344	54	49

FARM INCOME STATISTICS FOR 1929.

County	Value of Crops, 1929			Value of all products, 1929		
	Total	Per Acre Harvested	Per Agr'l. Worker	Total	per farm acre	Per Agr'l. Worker
Allegany	$ 803,847	$ 34	$ 511	$ 1,043,370	$ 7	$ 663
Anne Arundel	2,851,026	72	784	3,345,584	24	920
Baltimore	5,644,955	50	818	8,548,112	34	1,239
Calvert	1,391,766	71	725	1,580,340	14	823
Caroline	2,328,936	32	745	3,423,992	20	1,096
Carroll	4,534,700	29	868	6,634,584	26	1,270
Cecil	2,114,659	29	780	3,337,448	19	1,232
Charles	1,826,670	47	623	1,946,773	9	634
Dorchester	2,781,864	40	834	3,221,067	19	965
Frederick	5,297,013	26	826	8,338,621	24	1,300
Garrett	1,576,313	27	590	2,175,126	9	814
Harford	3,110,637	36	707	6,027,225	28	1,370
Howard	1,713,320	30	706	2,693,761	21	1,110
Kent	2,130,619	27	863	3,010,731	19	1,220
Montgomery	3,047,241	32	725	5,291,795	22	1,259
Prince Georges	3,190,333	64	686	3,824,996	18	823
Queen Annes	2,241,904	22	759	3,516,241	17	1,191
St. Marys	1,937,294	50	650	2,053,328	12	689
Somerset	2,663,451	62	767	3,141,115	27	905
Talbot	2,345,627	30	920	2,933,590	19	1,150
Washington	4,399,847	34	972	5,363,370	23	1,185
Wicomico	3,962,345	68	960	4,093,479	27	992
Worcester	3,782,920	58	1,059	4,085,933	22	1,144
Total.....	$ 65,677,269	$ 38	$ 794	$ 89,630,581	$ 21	$ 1,082.97

FARM ACREAGE IN 1900, 1910, 1920 and 1930.

County	Acreage in Farms				Percentage Change			
	1900	1910	1920	1930	1900-10	1910-20	1930-30	1900-1930
Allegany	160,348	163,287	152,974	139,322	1.63	-6.32	-8.92	-13.11
Anne Arundel*	206,967	208,245	179,133	138,315	.61	-13.98	- 22.79	-33.17
Baltimore*	340,206	326,482	280,618	249,744	-4.03	-14.05	- 11.00	-26.59
Calvert	136,625	124,695	123,676	111,639	-8.73	- .82	- 9.73	-18.28
Caroline	183,501	186,878	174,225	167,521	1.84	- 6.77	- 3.85	- 8.71
Carroll	276,953	276,308	273,777	259,360	- .23	- .91	- 5.26	- 6.35
Cecil	200,629	195,611	187,561	175,229	-2.50	- 4.12	- 6.57	-12.66
Charles	263,255	232,337	235,476	205,011	-11.74	1.35	- 12.94	-22.12
Dorchester	243,497	234,985	201,808	172,249	- 3.50	-14.12	- 14.65	-29.26
Frederick	374,381	374,653	364,525	350,343	.07	- 2.70	- 3.89	- 6.42
Garrett	243,510	265,220	244,754	241,248	8.91	- 7.72	- 1.43	- .92
Harford	248,925	247,146	219,089	212,363	- .71	-11.35	- 3.07	-14.69
Howard	146,039	149,052	142,400	128,837	2.06	- 4.46	- 9.52	-11.77
Kent	169,288	172,823	165,800	159,460	2.08	- 4.06	- 3.82	- 5.80
Montgomery	283,469	273,270	260,405	238,728	-3.59	- 4.71	- 8.32	-15.78
Prince Georges	265,003	240,036	228,723	207,459	-9.42	- 4.71	- 9.30	-21.71
Queen Annes	224,143	219,072	214,378	209,415	-2.26	- 2.14	- 2.32	- 6.57
St. Marys	192,503	192,787	190,387	167,547	.15	- 1.24	- 12.00	-12.96
Somerset	144,970	146,270	131,253	117,573	.90	-10.27	- 10.42	-18.90
Talbot	164,792	163,038	160,450	152,574	-1.06	- 1.59	- 4.91	- 7.41
Washington	249,221	231,191	239,298	230,849	-7.23	3.51	- 3.53	- 7.37
Wicomico	207,284	197,821	167,840	147,783	-4.56	-15.16	- 11.95	-28.70
Worcester	241,435	234,525	206,826	188,422	-2.86	-11.81	- 8.90	-21.96
TOTAL.....	5,166,944	5,055,732	4,745,376	4,370,991	-2.15	- 6.14	- 7.89	-15.44

*Parts of Baltimore and Anne Arundel counties annexed to Baltimore City in 1919

STATISTICS ON PUBLIC SERVICES.

COUNTY	% of farms on improved roads - 1930	State & local Public Debt per capita, 1931	General property tax rate 1931	% of current school expenses from State Equalization Fund.
Allegany	37	$ 82.11	$ 2.27	3
Anne Arundel	62	73.85	2.74	9
Baltimore	73	104.48	1.62	0
Calvert	44	49.85	2.41	35
Caroline	47	31.92	1.69	32
Carroll	53	16.20	1.88	17
Cecil	52	20.92	1.46	0
Charles	63	10.76	1.51	33
Dorchester	81	38.30	2.17	24
Frederick	55	57.48	2.06	0
Garrett	36	15.13	1.90	41
Harford	51	23.13	1.61	0
Howard	56	60.19	1.90	0
Kent	61	69.16	1.79	10
Montgomery	66	157.03	1.79	0
Prince Georges	63	43.46	1.88	1
Queen Annes	38	18.26	1.68	10
St. Marys	49	14.68	1.77	25
Somerset	54	14.84	1.98	40
Talbot	61	50.00	1.72	1
Washington	63	110.28	1.85	0
Wicomico	51	52.52	2.00	13
Worcester	68	46.85	1.92	13
Total (State)	57%	$ 117.16	$ 2.00	9%

RELIEF STATISTICS

COUNTY	TOTAL RURAL FAMILIES	May 1934 Number	May 1934 Percent	August 1934 Number	August 1934 Percent
Allegany	7,027	1,497	21%	1,475	21%
Anne Arundel	8,968	740	8	130	1
Baltimore	27,194	343	1	177	1
Calvert	2,074	166	8	106	5
Caroline	4,471	421	9	154	3
Carroll	7,240	-	-	-	-
Cecil	5,099	291	6	266	5
Charles	3,327	220	7	130	4
Dorchester	4,277	272	6	272	6
Frederick	8,278	1,389	17	926	11
Garrett	4,194	1,191	28	900	21
Harford	6,276	-	-	-	-
Howard	3,614	176	5	175	5
Kent	2,872	215	7	100	3
Montgomery	10,413	552	5	545	5
Prince Georges	10,735	735	7	550	5
Queen Annes	3,571	275	8	117	3
St. Marys	3,012	241	8	100	3
Somerset	4,759	500	11	515	11
Talbot	3,756	182	5	103	3
Washington	8,163	1,155	14	775	9
Wicomico	5,032	362	7	300	6
Worcester	4,731	357	7	360	8
All Counties	149,083	11,280	8%	8,176	5%

APPENDIX

D

Various Drainage Surveys

U. S. Department of Agriculture Office of Experiment Stations.

Drainage Investigations.

Report on an Examination and Survey of a part of the POCOMOKE RIVER, MD.

Made to determine the feasibility of its improvement for a drainage outlet.

Prepared by

G. A. Griffin,

Under the direction of

C. G. Elliott, Chief of Drainage Investigations.

June, 1908

Report on an Examination and Survey of a part of the

Pocomoke River, Md.

The Pocomoke River was brought to the attention of the Office of Drainage Investigations in connection with an investigation of the drainage outlet for the Cedar Swamp in Sussex County, Delaware. Congressman H. R. Burton, of that State, requested that investigation, and suggested this river as a possible outlet for the swamp mentioned. Prof. S. M. Woodward, Supervising Engineer of this Office, visited and examined the river in the vicinity of Whaleyville, Md. It was apparent that although the river is a possible outlet for part of the Cedar Swamp, the most urgent need for improving the river would be to furnish a satisfactory means of draining the cultivated land in its watershed, which it now fails to do. He accordingly recommended that a brief survey and examination be made to determine the condition of the channel and its fall from the State line to tidewater. This was done, and the report as presented here contains a description of the channel of the river as found during our examination, a map of the river, a sheet of cross sections showing the size and shape of the channel, a table of profile data, and the results of the examination and survey. The investigation of the river was short and only sufficient data obtained to enable a report to be made on the feasibility of the project. There is not presented, therefore, a detailed plan for improving the river but conclusions from the conditions found and general recommendations based on them.

Geographical Location and Nature of the River and its Watershed.

The Pocomoke River is located on the Maryland-Delaware peninsula; it rises in Delaware 5 or 6 miles north of the State line, and flows with a fairly straight course south to Chesapeake Bay. It is navigable from the Bay to Snow Hill, Md., which is the terminus of a line of steamers running to Baltimore. North of Snow Hill the

river is navigable only for rowboats. It drains a watershed of about 170 square miles between the Atlantic Ocean and the Wicomico River and Chesapeake Bay. The land is quite flat in this vicinity and the branches and creeks emptying into the river reach out for several miles to Parsonsburg on the west, Berlin on the east, and beyond Gumboro, Del., on the north.

The general opinion among the farmers along the Pocomoke is that one-half of their crops is lost because of the overflowing of the river and its inability to remove the surplus water of the adjacent farm lands. This condition exists on each side of the river swamp for an average width of one-half a mile, but in many cases much further, and from the sources of the river as far down as 8 or 10 miles south of the State line.

Methods of Investigation.

The river channel was examined by a boat party who noted the condition of the channel and the nature of the obstructions, and took cross sections at representative points and at contracted sections. The location of these was estimated by timing and by reference to the natural features as indicated on the U. S. Geological Survey map of this vicinity. The fall of the river channel was determined by a level party which ran levels along the road nearest to the river, and carried them in at the several crossings. From benchmarks established on the bridges the elevation of the water surface and of the bottom were measured. The boat party succeeded in traversing the greater part of the river from Hall's Crossing to Snow Hill, but this was done with great difficulty, and to assume that boats can do this readily would lead to an erroneous idea of the condition of the channel. The survey and examination were made by a party in charge of G. A. Griffin, assisted by

H. M. Lynde, and two rodmen. The work was done from August 3 to 19th.

In the following description of the examination reference will be made to the cross sections as numbered on the accompanying sheets.

Examination of the River Channel.

At a point about 3/4 mile north of the State line, the river had no perceptible velocity and was so badly obstructed with logs, lily pads and weeds that it was practically impossible to traverse it by boat. The bottom is sandy; width about 40 feet, (although banks are not well defined,) and depth less than 1 foot. Hall's Crossing was the next place examined, and the boat party began its work here. The river has a slight velocity, the channel is about 40 feet in width, and from 1-1/2 to 2 feet deep. Below this crossing there are many bad obstructions, such as trees fallen across the river, which had to be cut through to allow a boat to pass. The trees form dams which catch leaves and floating debris. Cypress kness are abundant in the bed of the stream, and owing to the shallow water (0-2 feet) the boat had to be dragged most of the way. (See cross section Nos. 3 to 6). Starting from Duncan's Crossing there was an abundant growth of cypress knees, and the river was obstructed every 50 to 100 feet with fallen trees. The swamp is but little higher than the bed of the stream and many branches which enter flow into the swamp so that their channels cannot be distinguished. The average width of the channel between these crossings is 25 to 30 feet. Just north of Duncan's Crossing the run widens to 40 - 50 feet, and has a depth of 4 to 5 feet. At the crossing the channel is in good order and has a hard bottom. Fifty feet south the river divides into two branches, both of which are badly obstructed. A large 12-inch tree has fallen across the channel where it forks, and it holds back a great quantity

of debris (See Cross Section No. 15). The branches of the river extend for about 400 feet and have an average width of 12 feet. From the end of these to the B.C. and A. Railroad bridge, the river is more open, although five large obstructions occur. Cross sections Nos. 16 and 17 were taken in this interval, and are representative ones. At the railroad bridge the opening between abutments is 300 feet. From here to Green Run Crossing, the first three quarters of a mile is filled to a great extent with weeds and brush, which are matted together and obstruct the stream. There are two or three especially bad places from 150 to 200 feet long. Weeds constitute the principal obstructions. Sometimes extending across the channel and again leaving an open run of about 10 feet. There are a few fallen trees above the surface of the water, but the bottom is quite free from stumps and cypress knees, and consists of soft mud. The current is quite perceptible. Cross sections are variable in this interval, as may be seen by referring to Nos. 19 to 24. For 600 feet on both sides of a large unnamed branch entering on the west, the channel is large and has apparently been cleaned out. 150 feet south of Green Run Crossing the channel turns sharply to the west; the width is about 30 feet, 20 of which is full of weeds. (See Cross Sections No. 25.) There is then one-fourth of a mile of open channel below which it narrows to about 5 feet, bordered on each side by 20 feet of weeds, this condition existing for 1000 feet. There is only one fallen tree obstructing the channel in this distance. A mile below the crossing the main channel is 60 feet wide and about 2 feet deep. It is completely grown up with weeds. West of this channel is another one which takes most of the flow; it is about 1/4 mile long, 30 feet wide, and from 2 to 4 feet deep. It is badly obstructed, in a distance of 150 feet there being 6 trees lying across the stream at about the water surface, in addition to many others throughout this stretch. Below the small

island separating the branches the channel is 60 feet wide and 6 feet deep to within 100 feet of Givin's Crossing. Between the latter and Purnell's, the chief obstructions are lily pads and weeds. The width of channel is from 30 to 90 feet, but the open run is frequently only 3 to 10 feet. For a distance of 500 feet above Timmonstown Branch, the run is hardly wide enough for a row boat to pass through. There is also a small Island about 600 feet north of the Branch. 1000 feet north of Purnell's Crossing a levee, extending for 400 feet confines the river to a channel of 30 feet. The river is divided about 300 feet north of the crossing by an island 200 feet long. Below this crossing about 200 feet is another island 200 feet long. The main channel is on the west and is about 50 feet wide and 3 feet deep. It is wide and open to 3/4 of a mile below Purnell's. Beyond this the run is narrow for 400 feet and bordered by dense weeds. It then widens out to 50 feet again. (It was noted here that the level of the swamp is slightly higher than the water surface whereas above this point the swamp was generally wholly or partly overflowed.) About 1/4 of a mile below Purnell's is an old cut-off of 1,500 feet in length. It is somewhat obstructed by fallen trees. For its size see Cross Section No. 36. Just north of the branch entering from Adkin's Pond, the channel narrows to 25 feet, (See Cross Section No. 37). From here to Burbage's Crossing there are three or four obstructions caused by submerged trees. (Banks are well defined and level of swamp is higher than water surface.)

From one-half mile below Burbage's Crossing to within 700 feet of Whiton's the channel is full of obstructions, usually large up-rooted trees which have fallen across, and lie at about the water surface. Half way between the two last mentioned crossings, these obstructions occur about every 150 feet for a distance of a mile. In places several trees are found, one on top of another. These obstructions act as a dam and collect drift. Progress by boat was very difficult here. Between these

crossings the channel is 30 to 50 feet wide and 2 to 4 feet deep. There are no weeds, and the banks are well defined, being about a foot higher than the water surface. Below Whiton's Crossing, the channel is open and in good condition except for occasional sunken logs and cypress knees. The bottom is generally hard and quite sandy, width 25 to 40 feet, depth 2 to 4 feet, banks 1-1/2 feet high. Below the inlet from Tilghman's Pond is an island 100 feet long, dividing the river into two branches 6 and 18 feet wide. The smaller one is full of knees and brush and the larger is obstructed by fallen trees. Beyond this island the channel is 50 feet wide and from 1 to 5 feet deep for a quarter mile. It then narrows to 35 feet for a distance of a half-mile, and has an average depth of 5 feet. In this stretch frequent fallen trees lie across the river. There is then a sharp bend to the east and for 500 feet the channel narrows to 20 feet, causing a swift velocity to the current. There are numerous obstructions in this section. It ends about 1000 feet north of the Old Mill Branch and the channel widens again to 40 feet. Below the branch the bottom is full of logs and sand bars. The channel then makes a sharp bend to the west and in a distance of 1000 feet there are five fallen trees. The width here is 28 to 30 feet, and depth 2-1/2 feet. The channel is crooked and obstructed by sand bars, cypress knees, and logs to Powell's Crossing. Below the latter the width averages 40 feet and the depth is 4 feet. There are numerous sand bars and sunken logs. Banks are about 2 feet high and begin to show evidence of tidal fluctuation. Between Purnell's and Newark Crossing sand bars are frequent and the drifts are large. Other obstructions wholly or partly submerged extend across the river.

Results of the Examination and Survey.

The principal points to be noted from the results of our examination and sur-

vey are: first, fall in the channel of the river; second, irregularity of area of cross sections taken within short distances of each other; third, badly obstructed conditions of the channel. The first will be seen from the sheet of profile data, the second, from the sheet of cross sections; the third from the notes of the examination.

The fall in the bottom of the channel is 33.8 feet in a distance of 23.0 miles. This is at the rate of 1.47 feet per mile. It is quite uniformly distributed, as will be noted.

Interval	Distance Miles	Average fall of bottom of River Channel.	Rate (Feet per mile)
Hall's to Duncan's	3.4	5.5	1.62
Duncan's to Green Run	4.0	4.0	1.00
Green Run to Given's	1.1	1.1	1.00
Given's to Purnell's	2.5	3.7	1.48
Purnell's to Burbage's	3.0	4.2	1.40
Burbage's to Whiton's	2.2	3.5	1.63
Whiton's to Powell's	3.0	4.1	1.37
Powell's to Newark	3.0	4.5-6.4	1.50-2.15

The lower rate of fall between Duncan's and Given's Crossing is probably due to a large bend which the channel makes to the west causing a longer course in its progress south.

The description of the river channel makes clear the failure of the river to drain the land. The inability to cooperate to keep the river open is probably largely responsible for its condition. Feeble attempts have been made many years age to improve small sections of the river but little has been done recently. Near the crossings the river is kept clear but out of sight of these, hunters and lumbermen hew trees and let them fall across or into the river regardless of other interests than their own. There is apparently no attempt made by landowners along the stream

to even clear the part of the river near their property. Each farmer and property owner realized the loss to his crops resulting from the condition of the river, but each lays the responsibility on the other. Especial stress is laid upon the trees and other debris in the river because it is believed that they are the cause of its sluggishness. Weeds are prolific in many places to be sure, but these are evidence of retarded velocity, probably caused largely by the obstructions mentioned.

Possibilities of Improvement.

The chief need for improving the Pocomoke River is, as has been said, to render it an efficient outlet for the drainage from the adjacent farms. The belief prevails in the vicinity that improvement of the river by increasing the size of its channel would accomplish not only this, but the drainage of the swamp land bordering the river.

To make the Pocomoke a satisfactory drainage outlet, its channel should be 8 feet deep and from 30 feet wide at the upper end near the State line to 50 feet wide 8 or 10 miles below. This would thoroughly drain cultivated land, remove the swamps and their malarial effects, and also make the river navigable for small boats. It would cost from $4000 to $6000 a mile, and assuming land a mile on each side to be benefited, the cost per acre would be from $3 to $5.

Much good can be done by cleaning out the logs, weeds, and debris that now obstruct the flow of the river. There is a fairly good fall in the bottom of the channel, and cleaning out would permit the influence of this to be felt in an increasing velocity sufficient to scour the channel to some extent, and to prevent the growth of weeds. This work would cost about $600 a mile if done by snag boat, or about 50 cents per acre. The present state of agriculture and value of farm lands would in all probability not justify the large expense of dredging the channel,

but cleaning it would probably result in saving enough crops to repay the cost of doing the work. After this had been done it is possible that land value would increase sufficiently to justify the dredging of the channel so as to make it a complete outlet.

U. S. Department of Agriculture
Office of Public Roads and Rural Engineering
DRAINAGE INVESTIGATIONS
S. H. McCrory, Chief

Report of
A Preliminary Examination
of the
LONG MARSH DRAINAGE DITCHES,
CAROLINE AND QUEEN ANNES COUNTIES, MARYLAND,
by
Fred F. Shafer, Drainage Engineer.

Field Examination made June 19, 1916.
Report submitted July 22, 1916.

Prepared under direction of
S. H. McCrory, Chief of Drainage Investigation.

INTRODUCTION.

At the request of Alva J. Norman, agricultural agent of Caroline County, Maryland, Fred F. Shafer, a drainage engineer of this Office, made a brief preliminary examination of the Long Marsh ditch and watershed, on June 19, 1916. Mr. Shafer was accompanied by Mr. Norman and two interested landowners. The examination was made by automobile and covered a limited section between Kane crossroads and Bridgetown. The following report and the accompanying map were prepared from this inspection, from discussions with landowners, and from the use of the Geological Survey maps of this section.

LOCATION AND AREA.

The Long Marsh ditch is an extension of Mason Branch and forms the boundary line between Queen Annes and Caroline Counties, from the county road running from Kane Crossroads to Ingleside, down to Krouse Mill pond. The area of land contributing run-off to this stream, down to Krouse mill pond, is approximately 49,600 acres, or 77½ square miles. The watershed is oblong in shape, about 14 miles long, and averages about 5½ miles wide. The total area in Caroline County is 15,500 acres, or 24.2 square miles, and in Queen Annes County, 34,100 acres, or 53.3 square miles.

The nearest railroad stations are Ridgely, Greensboro and Goldsboro, on the Delaware and Chesapeake Railway; and Ashland, Tilghman, and Barclay, on the Philadelphia, Baltimore and Washington Railway. One of the state roads crosses the watershed from Tilghman to Goldsboro. There are numerous other roads throughout the district.

TOPOGRAPHY, SOIL, AND DRAINAGE CONDITIONS.

In general the topography of the district is flat, or slightly undulating, with a fairly good slope from both edges of the watershed to the main channel, the difference in elevation being 10 to 25 feet. The total fall from the upper end of the watershed to the water surface in Krouse mill pond is about 50 feet.

The soils of this area are classified by the U. S. Bureau of Soils as sassafras, loamy sand, sassafras loam, Portsmouth sandy loam, and meadow. The principal characteristics of the sassafras types are its good drainage properties. The Portsmouth and meadow types have rather poor drainage qualities. All of the soil is of a sandy nature; the low-lying areas along the stream, as a rule, contain more silt and clay, and in general, if thoroughly drained, would be most productive.

The area in timber is probably between 10 and 15 porcent. Considerable of the land cleared and in cultivation is too wet and is uncertain in crop production. Probably 20 to 25 percent of the entire area is too low and without adequate outlet for profitable cultivation. Peas, tomatoes, strawberries, melons, etc., are grown to large extent. A considerable area is devoted to wheat, corn and hay.

The present drainage of the low lands is extremely poor. There are large numbers of small hand-made ditches, which usually are poorly located and too small.

The Long Marsh ditch was constructed by slave labor, possibly more than one hundred years ago. It has been cleaned by hand at various times and in various sections. The present dimensions of the ditch area: Top, 15 to 25 feet; bottom, 10 to 20 feet; and depth from 2 to 4 feet. The larger dimensions occur in the vicinity of Bridgetown. The valley subject to overflow along the Long Marsh ditch varies in width from a few hundred feet to perhaps over one-fourth mile. The fall obtainable down the valley ranges from about 2-3/4 to 4-1/2 feet per mile, which is ample to provide good drainage.

There are four principal tributaries to the Long Marsh ditch, namely: Beetree Ditch, Beaverdam Ditch, Scotch Branch, and German Branch. Only the first is in Caroline County, the other three being in Queen Annes County. There are twelve or fourteen small branches and ditches discharging into the Long Marsh ditch.

IMPROVEMENTS RECOMMENDED.

The drainage improvements required provide flood capacity and to permit adequate outlet for the flat areas may be considered in three classes:

First, a large machine-constructed ditch following in general the present location of the Long Marsh ditch. It should begin at the county line road which runs between Kane crossroads and Ingleside, and extend down to Krouse mill pond, or Geary mill pond, as it was formerly called. This channel will be about 11.9 miles long. It has been divided into five sections, each to have different dimensions (see map and table of data).

Second, machine or team-and scraper branch ditches on the larger streams, Four are suggested -- Beetree Ditch, Scotch Branch, Beaverdam Ditch, and German Branch.

Third, the installation of large tile to replace the numerous hand-made ditches.

There have been no attempts in this section of the East to construct machine ditches, such as are prevalent throughout the Central States, nor does one find the larger sizes of tile used, that is, tile over 10 to 12 inches in diameter. Tile drains from 12 to 24 and even 30 inches in diameter are common in the West, and there seems to be no good reason why a large number of the smaller open ditches cannot with profit be replaced with tile in this section of Maryland and Delaware.

The following table of data shows the sizes of watersheds, the fall and dimensions of channels, the capacities of the ditches suggested, and the approximate excavation required for the main ditch and principal laterals:

TABLE OF DITCH SIZES, EXCAVATIONS, ETC.

	Watershed area	Length	Fall	Dimensions Top	Dimensions Bottom	Dimensions Depth	Capacity	Excavation
	Sq.Mi.	Miles	Feet Per mi.	Feet	Feet	Feet	Cu. Ft. per sec	Cubic yards
			Main Ditch					
Main Sec. No. 1	6.9	2.5	2.94	26	10	8	500	70,400
" " " 2	16.7	1.9	2.78	28	12	8	510	59,500
" " " 3	32.1	3.4	4.55	32	14	9	920	137,600
" " " 4	50.1	2.3	4.16	34	16	9	970	101,200
" " " 5	77.6	1.8	4.45	38	18	10	1340	98,600
			Beetree Ditch					
	3.5	2.8	3.35	16	4	6	190	32,800
			Scotch Branch					
	3.2	2.8	.10	15	4	5½	170	28,600
			Beaverdam Creek					
Section No. 1	7.0	3.7	5.13	17	5	6	210	47,700
" " 2	12.0	1.5	5.13	20	7	6½	320	25,800
			German Creek					
Section No. 1	13.0	2.0	6.6	18	6	6	275	28,200
" " 2	22.5	2.75	6.6	22	8	7	450	36,500

ESTIMATE OF COST.

The estimate of cost is given as a general guide only. A final survey should be made and an accurate estimate prepared before construction is started or bonds sold for financing the enterprise.

Main Ditch

Excavation, 467,300 cubic yards at $0.08 - - - - - - - -	$37,385
2 new wagon bridges, at $1,200 each, - - - - - - - - - -	2,400
Right of way for ditch, 130 acres at $25, - - - - - - - -	3,250
Legal, engineering and court costs at 12½ per-cent - - -	5,380
Total,- - - - - - - - - - - - - - - - - -	$48,415

The length of the main ditch is about 12 miles, so that the average cost per mile is about $4,000. The amount of land that would be directly benefitted by this construction cannot well be determined from preliminary examination. It is probable that three-fourths of the entire watershed would receive benefit, and would be liable to assessment.

In addition to the main ditch it would be profitable to construct or enlarge the present main tributaries at the following costs:

Beetree Ditch.

Excavation, 32,800 cubic yards at $ 0.12½, - - - -	$4,100
2 wagon bridges at $750 each, - - - - - - - - - - - -	1,500
Right of way, 25 acres at $25 per acre, - - - - - - -	625
Legal, engineering and court costs at 12½ per cent, -	775
Total, - - - - - - - - - - - - - -	$7,000

Scotch Branch Ditch.

Excavation, 28,600 cubic yards at $0.12½,	$3,575
1 wagon bridge,	750
Right of way, 25 acres at $25 per acre,	625
Legal, engineering and court costs at 12½ per cent,	620
Total,	$ 5,570

Beaverdam Ditch.

Excavation, 73,500 cubic yards at $0.12½,	$ 9,190
2 Wagon bridges at $900 each,	1,800
Right of way, 50 acres at $25 per acre,	1,250
Legal, engineering and court costs at 12½ per cent,	1,530
Total,	12,770

German Creek.

Excavation, 84,700 cubic yards at $0.10,	$ 8,470
3 wagon bridges at $900 each,	2,700
Right of way, 50 acres at $25,	1,250
Legal, engineering and court costs at 12½ per cent,	1,550
Total	13,970

Total cost of main ditch and four tributaries, - - - - - - - - - - - $88,725

It is probable that several other smaller ditches should be constructed later by team and scraper.

ORGANIZATION.

A general drainage law recently has been enacted in Maryland which provides for all legal steps in formation of drainage districts. In this case, the joint action of Caroline and Queen Annes counties would be required. The law requires that a majority of the landowners or the owners of over three-fifths of the land, sign a petition asking the county commissioners for a preliminary examination and report to determine whether or not the project is feasible. If it is found to be practicable, a detailed survey is made and the land assessed for damages and benefits by a board of three viewers, one of which is a civil engineer. They divide the land into five classes, based on amount of benefit or damage conferred by the improvement. The act also provided due recourse by law for all dissatisfied landowners at all states of the proceedings. It provides that bonds be issued against the district for a term of twelve years to pay for the improvement. The special taxes are collected in the same manner as the regular taxes. Lands may be sold for payment of the special drainage taxes. The cost of the improvement when paid by bond issue is spread over a period of twelve years, so that the payment in any one year is not heavy.

CONCLUSIONS.

The construction of an improved channel for the Long Marsh Ditch and the principal tributaries seems to be highly desirable. The improvements would increase materially the acreage of land which could be cultivated, as well as give larger crops on lands which are now cultivated but uncertain in crop production on account of being wet and occasionally overflowed.

The soil is of a sandy, porous nature, which has good natural drainage properties when sufficient outlets are provided. It is probable that considerable large-sized tile should be used to replace small hand-made ditches, when the main outlet ditches are constructed.

The large ditches should be dug by machines, probably the floating dipper dredge.

The cost of the main ditch is estimated to be $48,415, which will not be excessive on any lands, since a large part of the area may be assessed for benefits.

The Maryland drainage law provided a method of organization, and for the payment for such improvements by bond issues.

This report is accompanied by a map.